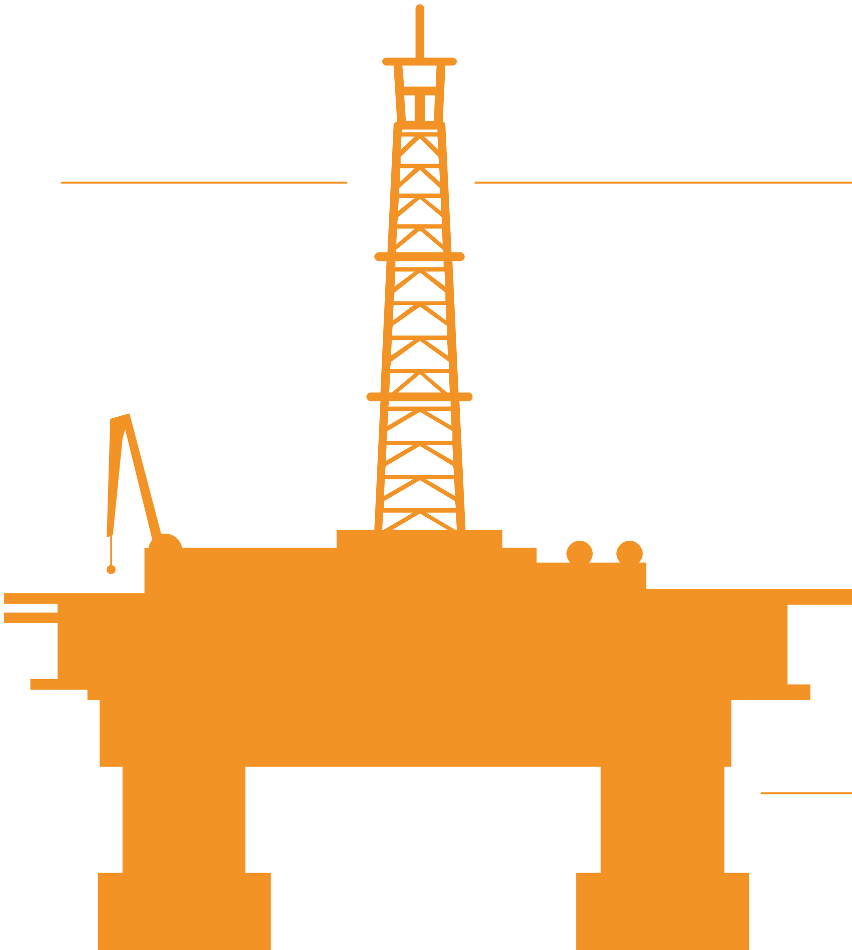
holman fenwick willan hfw

The Standard

FPSO Round Table Seminar

21 June 2016

The Standard



The Standard Club update

John Croucher, Head of Division

21 June 2016

Programme

01	Club update and other industry issues
02	Market update
03	Commercial insurance market solutions
04	P&I cover for production operations
	Coffee break
05	Club FPSO Claims
06	Industry and commercial market losses
07	Review of recent changes in contractual arrangements
08	Casualty workshop
09	Lay up issues for FPSO
	Lunch

Club update

- Progressive P&I club with a development agenda
- Reliable long-term partner
- Strong financial position

Overview of the club: key financials

Selective growth; breakeven underwriting; strong balance sheet

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Total tonnage

138m gt

20 February 2016

+2.5%

20 Feb. 2015 – 20 Feb. 2016

Owned tonnage

116m gt

20 February 2016

+ 3.6%

20 Feb. 2015 – 20 Feb. 2016

Premium income

$322m

Projected 2016/17

$354m

2015/16

Combined ratio

95%

2015/16

100%

2014/15

Investment return

-0.9%

2015/16 financial year

1.8%

2014/15 financial year

Surplus

2015/16 financial year

$10m

$12m

2015 financial year

Free reserves

$390

20 Feb 2016

$380m

20 Feb 2015

S&P rating

A (strong)

AAA capital strength

Affirmed June 2015

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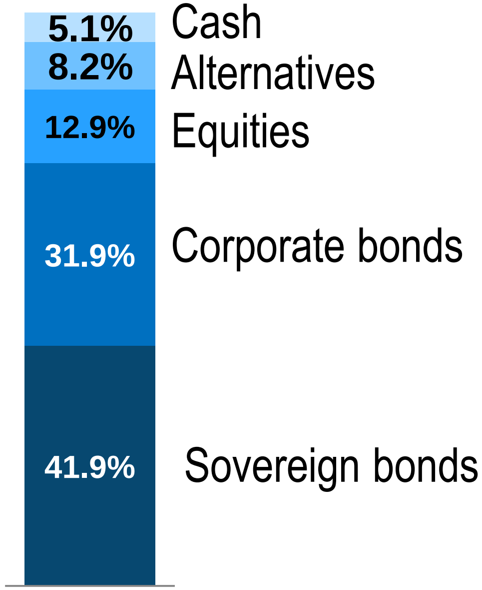
Investment policy

The portfolio is low-risk, consistent with AAA capital strength

Portfolio breakdown

% of portfolio
20 February 2016 unaudited



Approach

- Aim to **'break even' on underwriting**; investment returns as a 'buffer'
- **Prioritising capital preservation**; risk profile has reduced over past 3 years to combat market volatility
- Asset allocation criteria established by the board
- Managers seek to maximise returns while operating within criteria and maintaining AAA capital strength
- Performance monitored actively by the board using agreed benchmarks

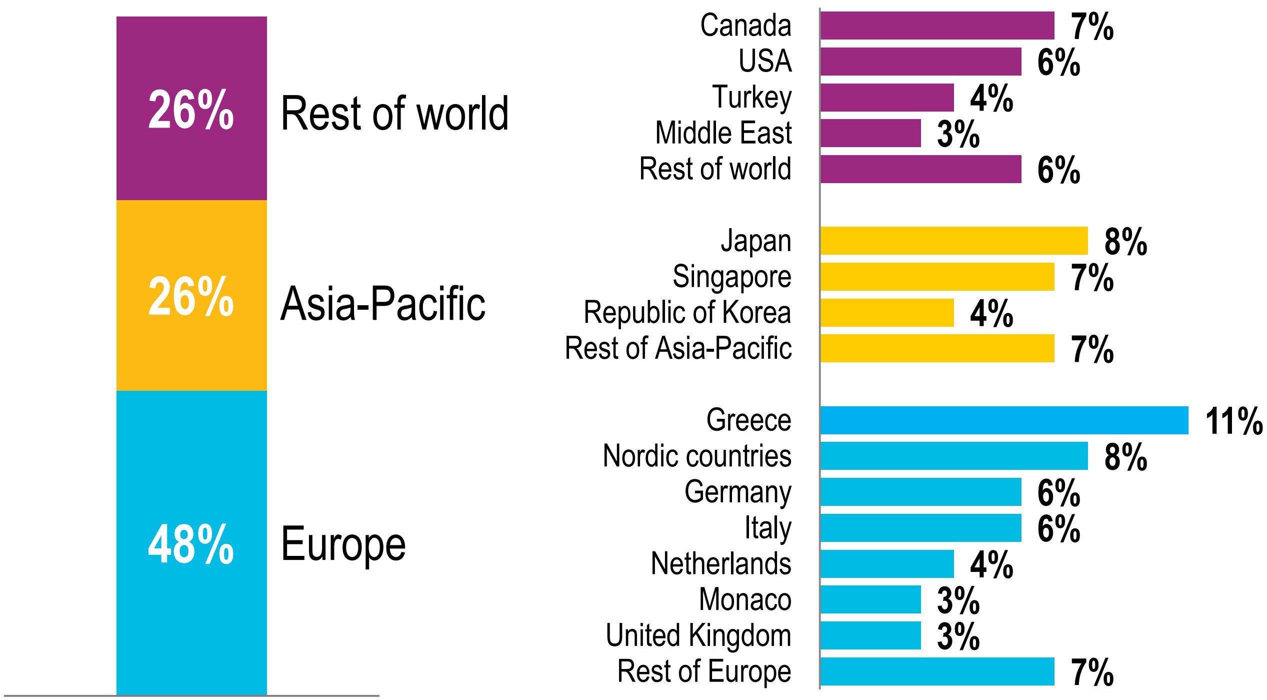
These numbers are approximate and based on CT estimates using data from Northern Trust and UBS Delta

Membership

Diverse spread of business by country of management and ship type

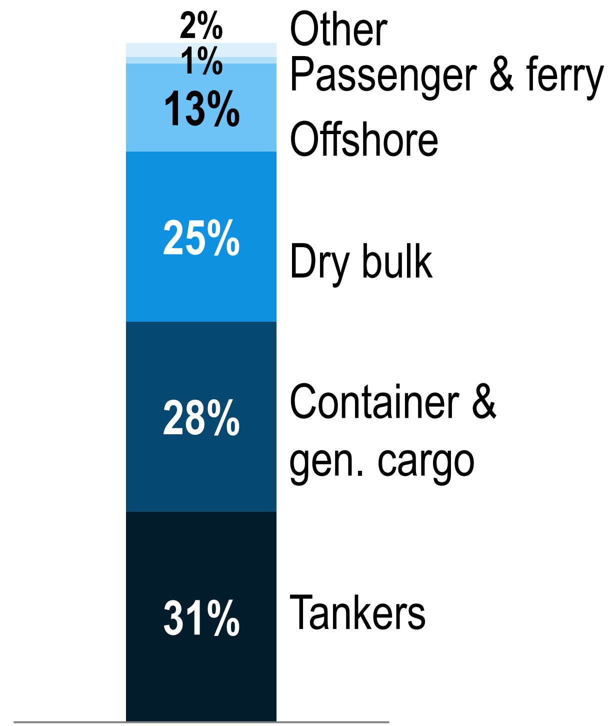
Owned tonnage by region

116m GT



Owned tonnage by ship type

116m GT



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Track record of flexibility and innovation

TOKIO MARINE NICHIDO

SWRM Singapore War Risks Mutual

The Standard Syndicate

1997	2001	2006	2014	Feb. 2015	Apr. 2015
Launch of Standard Club Asia Ltd.	'TS21' joint venture with TMNF	Dedicated 'offshore' team	Plan to launch IG COFRs*	Launch of SWRM war risks class	Launch of Standard Syndicate at Lloyd's

*Not supported by the International Group, but resulted in a competitive new entrant to this market

"Owners could save close to $40m each year if International Group clubs support [Standard's] move and guarantee US COFRs" – Tradewinds, January 2014

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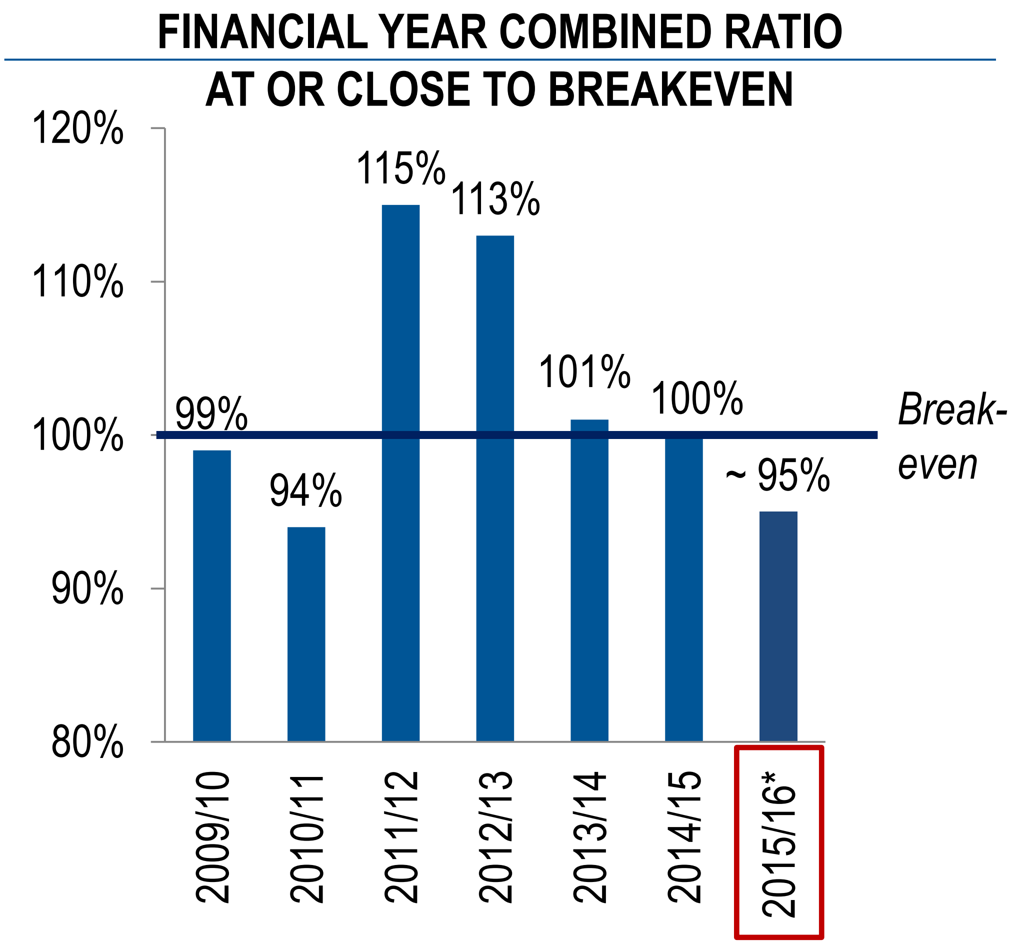
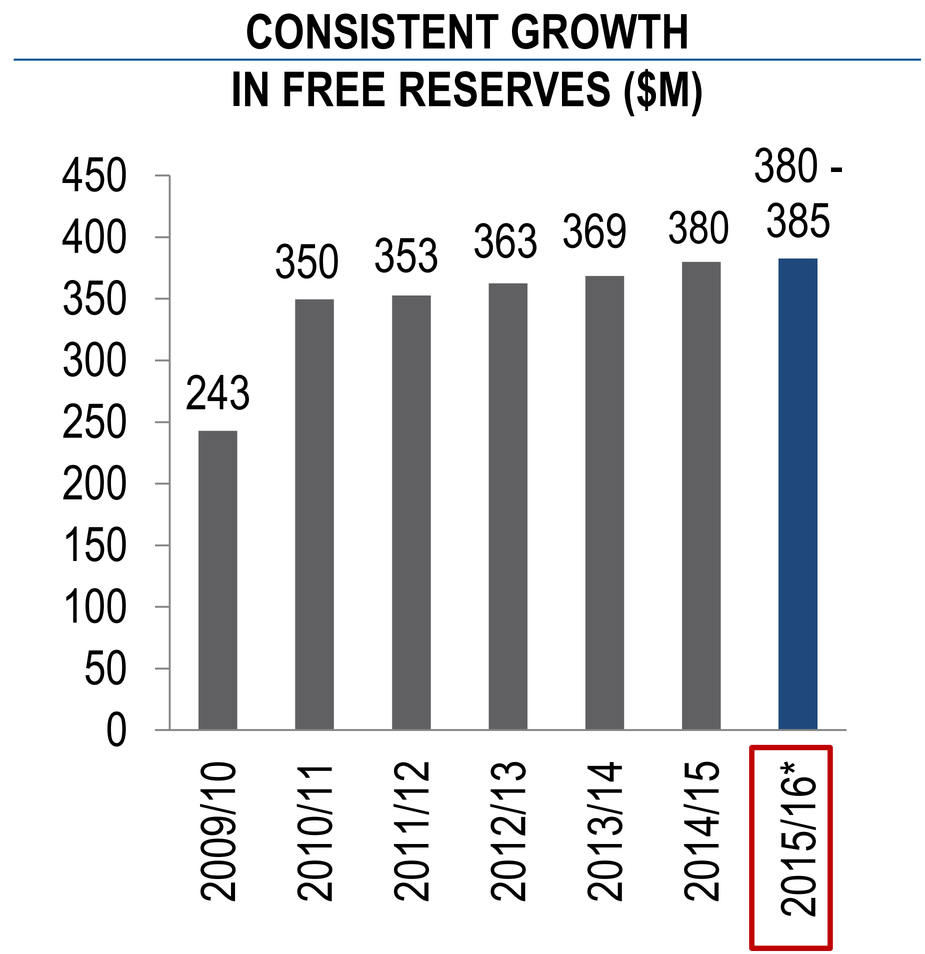
To provide first class financial security





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* Preliminary estimates

Focus on quality of operations

- Focus on operating quality supported by **‘Loss Prevention’ technical experts**
- Assessment of **member / vessel risk profile** – to support members and the club
  - **‘Desktop’ assessment** pre-attachment
  - ‘**Member Risk Review’** carried out by the club’s own technical experts
  - **‘Ship Risk Review’** with ~20% carried out by the club’s own technical experts
  - Efforts at each renewal to improve operating quality via non-renewal of some members
- Unique **Safety and Loss Advisory Committee**
  - Technical and operational experts from the membership
  - Informs the club’s stance and advice on safety and operational issues
- Communication of **‘best practice’** via **publications, seminars, member dialogue**

Selecting and managing risks based on operating quality

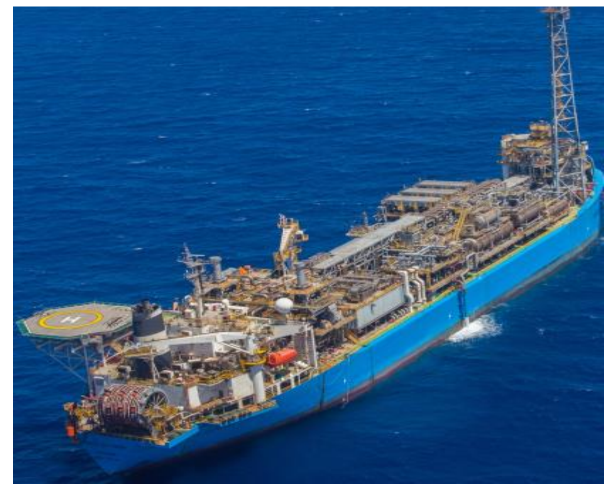
Offshore Business Update

Offshore Business Update

- Offshore business update
- Risk management and loss prevention
- Offshore industry issues

Offshore Business Update

- **Offshore business update**
- Risk management and loss prevention
- Offshore industry issues



Standard Offshore - History

- 1975 - first offshore entry
- 2006 - dedicated Offshore syndicate formed
- Over 40 year offshore underwriting record
- New frontiers / new risks

1975 → 2015

1st offshore Entry

Newest risks

Philosophy

- **Offshore is an excellent risk**

  - high operational standards

  - best practice safety and loss

BUT

- **Very high value, low frequency claims**
- **Dedicated Offshore syndicate offering:**

  - mutual; and

  - fixed solutions (Bespoke covers)

- **Up to $1bn fixed cover (highest in IG)**
- **24 hour contract review**

Offshore Division Structure

Head of Offshore Division

John Croucher

Underwriting

Underwriting Director
Ian Billington

Underwriter
Joseph Divis

Deputy Underwriters
Sian Dinnadge
Tom Williams
Hannah Griffiths

Underwriting Assistants
Brendan Pir
Celia Harrison
Fatima Seleman
Rosanna Unwin
James Kay

Claims

Syndicate Claims Director
Fabien Lerede

Claims Director
Ursula O'Donnell

Senior Claims Executive
Sarah Wallace

Claims Executive
Jonathan Clark

Offshore Contract Reviewer
Angeles Aguado

Claims Assistant
Cristine Christodoulou

Singapore

Offshore Regional Claims Director
Sharmini Murugason

Senior Claims Executive
Nicholas Mavrias

Claims Executive
Atousa Kakpour

Underwriting Director
Nick Taylor

Underwriter
Jack Marriot-Smalley

Deputy Underwriters
Ed Atkins
Sam Pik Ying
Jessie Heo

Loss Prevention

Director of Loss Prevention
Yves Vandenborn

Deputy Director of Loss Prevention
John Dolan

Chief Surveyor
Eric Murdoch

Senior Surveyor
Julian Hines
Rahul Sapra

Other Support

Reinsurance
Credit Control

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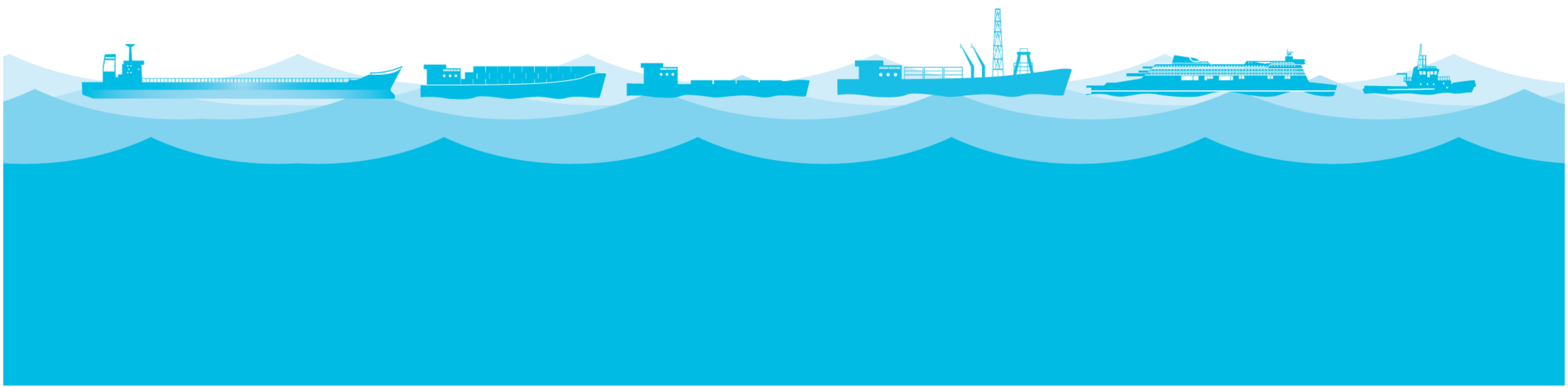
Ship types by tonnage

31%	28%	25%	13%	2%	1%
Tankers	Container and general cargo	Dry bulk	Offshore	Passenger and ferry	Other



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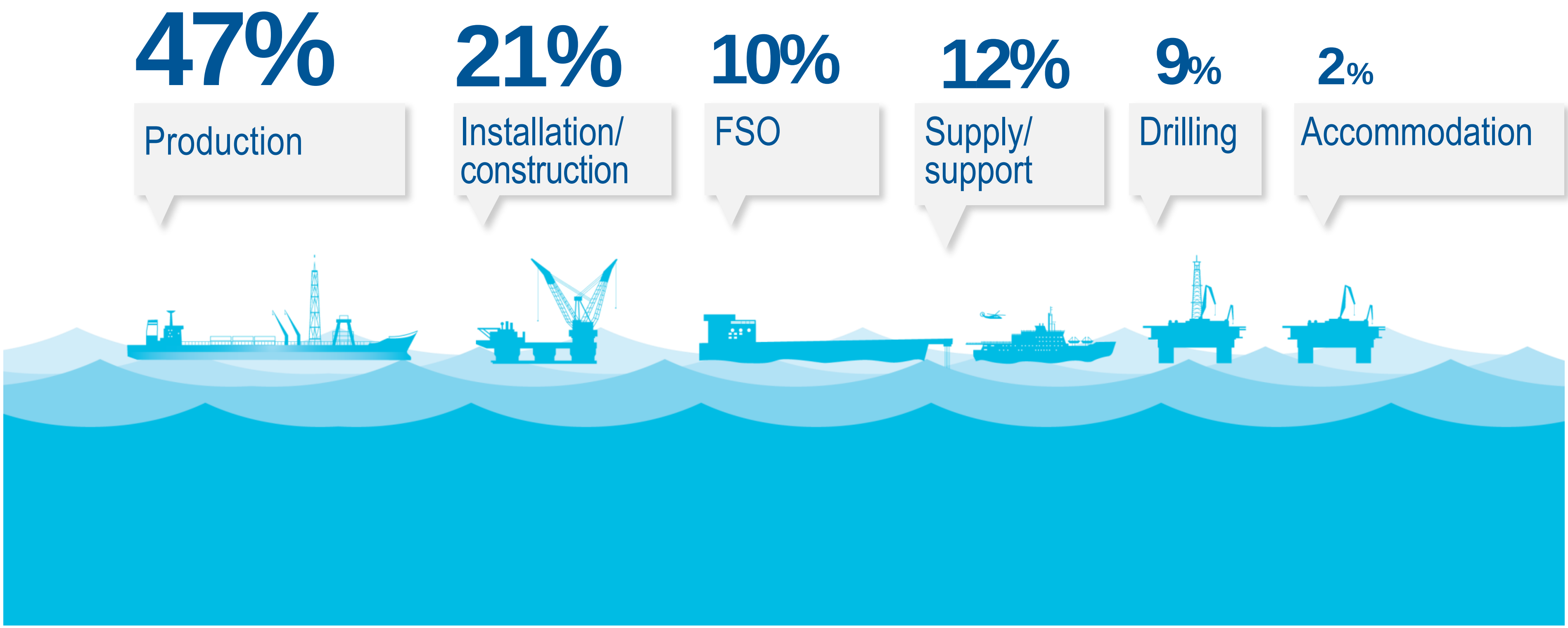
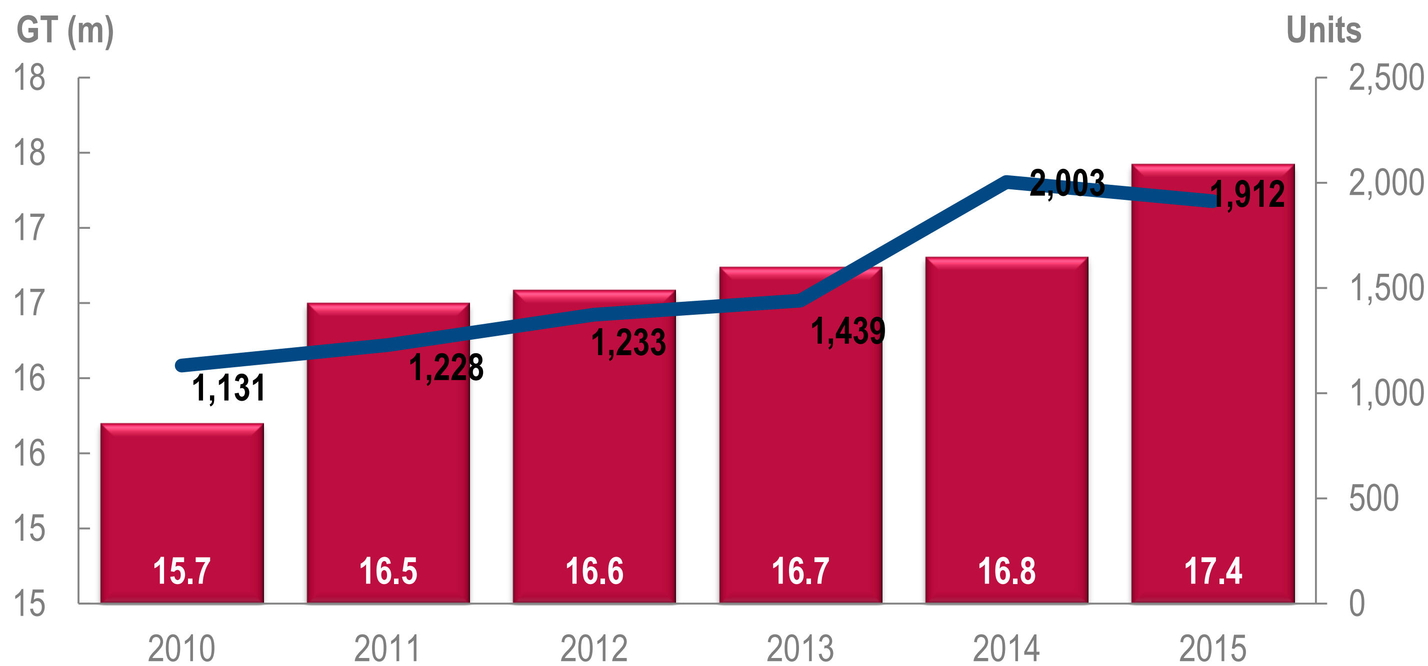
Offshore ship types by tonnage



Offshore Tonnage and unit numbers



(Owned and chartered)

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New members 2015

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New members 2016

Standard offshore members

Production
Anasuria Operating Co
Bumi Armada
BHP Billiton
BP
Chevron
Distrigas LNG
DEA E&P Norge
ECOS Srl
Endeavour
ENI Spa
EnQuest
Exxon Mobil
ESSO E&P
Edison Spa
Kris Energy
Lundin Petroleum
Maersk FPSO
Maersk Oil & Gas
Mitsui
Noble Energy
Petrofac
Premier Oil
Quadrant Energy
Repsol
Rubicon
Saipem
SBM
Teekay
Total
Tullow Oil
VNG Norge

Drilling
Energy Drilling Pte Ltd
Japan Drilling
Maersk Drilling
Norshore
Odfjell Drilling
QGOG
Saipem

Accommodation
Floatel International AB
AOS Cyprus
Intership
Swire Pacific Offshore
Teekay

Salvage / Supply / Specialist
Bourbon Offshore
De Beers
Energia
Esvagt
Fairmount
Fratelli D'Amato
Karadeniz
Mammoet Salvage
Mermaid Marine Australia
Nortrans Offshore
Opstad
Pacific Radiance Ltd
PB Towage
Royal Boskalis
Sealaunch
Seatrucks
Siem Offshore & SOC
Swire Pacific Offshore
Swire Seabed AS
Wagenborg

Installation / Heavy Lift
Allseas
A2Sea
Biglift
BigRoll
Boskalis
DBB Jack up A/S
Dockwise
Heerema
NTT World Engineering
Rolldock
Saipem
Seajacks
Swire Blue Ocean
Subsea7
TE Subcomm

KEY
❑ Board members under their principal name

Offshore Business Update

- Offshore business update
- **Risk management and loss prevention**
- Offshore industry issues

Offshore Risk management

- **Experienced/dedicated underwriting team**

  - Close liaison with Director of Underwriting and Reinsurance Director

- **Contract review and claims handling by qualified lawyers**

  - 742 contracts reviewed in 2015/16 (highest number ever)

- **Integrated safety and loss team involved in**

  - Risk selection, member risk reviews, risk rating matrix, annual survey programme, publications and presentations

Production units on risk

- 96 FPSOs, MOPUs and FSOs on risk

In the last 5 years:

- 70% of the operating FPSOs have been surveyed
- 60% of the operating MOPUs have been surveyed
- 80% of the operating FSOs have been surveyed

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Offshore business update

- Offshore business update
- Risk management and loss prevention
- **Offshore industry issues**

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Current offshore issues

- Operating quality and O&M budgets
- Field life extensions
- Contracting trends
- Lay-ups

Current offshore issues

Operating quality and O&M budgets

Number of projects feasible at breakeven price and field start-ups depends on the price of oil. Examples below:

- **Low case ($45/bbl 2021)** – 19% feasible
- **Base Case ($60/bbl 2021)** – 75.2% feasible
- **High Case ($75/bbl 2021)** – 94.3% feasible

Result - attempts to reduce project costs e.g. pass cost cuts of up to 30-40% down supply chain.

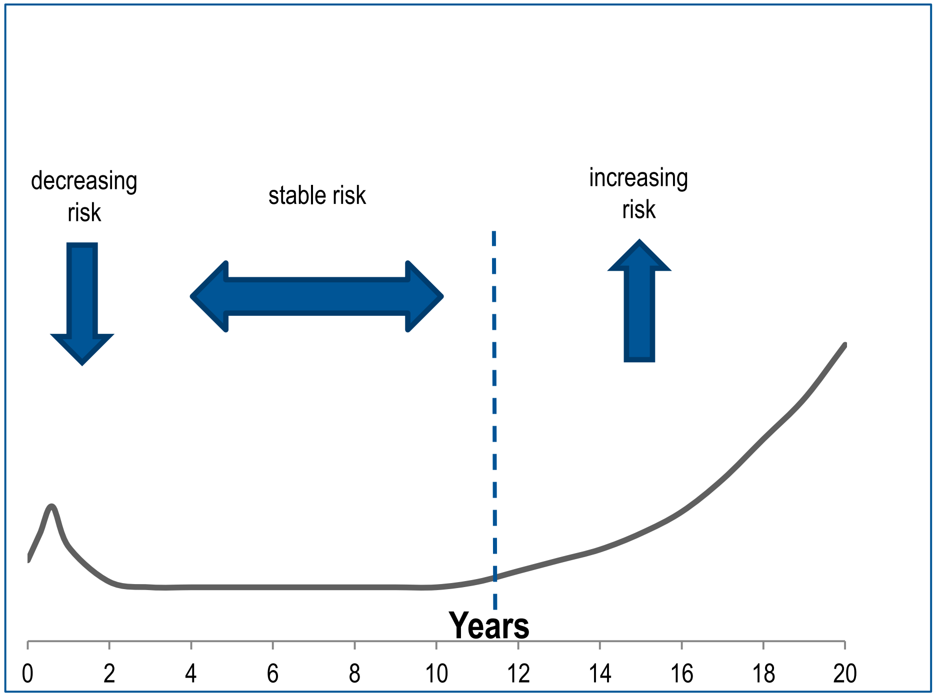
Brent Crude Oil Price Forecasts (US$/bbl)

Company	Reported	2016	2017
Reuters Poll	Mar-2016	40.9	
EIA	Apr-2016	35	41
ABN Amro	Apr-2016	50	60
BofA Merrill Lynch	Apr-2016	46	61
Barclays	Apr-2016	39	60
BNP Paribas	Apr-2016	39	48
Citi	Apr-2016	43	60
CSFB	Apr-2016	37.77	54.25
Deutsche Bank	Apr-2016	42.5	55
Goldman Sachs	Apr-2016	49.5	53.2
JBC Energy	Apr-2016	40.75	54.6
Morgan Stanley	Apr-2016	33	44
JP Morgan	Apr-2016	37.55	47.75
Societe Generale	Apr-2016	38.12	
UBS	Apr-2016	42.5	55
VTS	Apr-2016	40	55
RBC Capital Markets	Apr-2016	44	60
J.P.Morgan	Apr-2016	41	52
World Bank	May-2016	41	
Avg. Since Start Apr-2016		**$41.09**	**$53.80**

May 2016

Current offshore issues

Field life Extension of FPSOs - same hazards but different risks



Over the course of the FPSO field life the risks will change

- Operator and maintenance regime
- Operating environment
  - Security
  - Corrosion and erosion
  - Weight creep
  - Metocean conditions
    - >Cyclic loading hull
    - >Mooring arrangement fatigue
- Change in production fluid properties
  - Change from original design specification

Current offshore issues

- Contracting Trends
- Contracting discipline vs fleet utilisation
- Typical assumptions include:
  - Contractual wreck removal
  - GN/WM Carve out (how are they defined?)
  - Assumption of CAR / OEE deductibles (up to US$5m)
  - Capped non fault based liabilities (typically US$1m-US$5m)
  - Consider jurisdictional issues – enforceability of indemnities and limitation are key

Current offshore issues

Lay up issues

- Guidelines of class to be followed
- Choose suitable lay up operators and locations
- Ensure there is proper station keeping and an emergency response plan
- Proper ongoing maintenance and preservation plan

Questions

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@StandardPandI
The Standard P&I Club
www.standard-club.com

Charles Taylor

www.ctplc.com

Clarksons Research

FPSO Market Update

Market Overview, Recent Trends and Outlook

Presentation for The Standard Club FPSO Roundtable Seminar

By David Jordan, Clarksons Platou Asia Pte Limited (Singapore)

21 June 2016

Clarksons Research

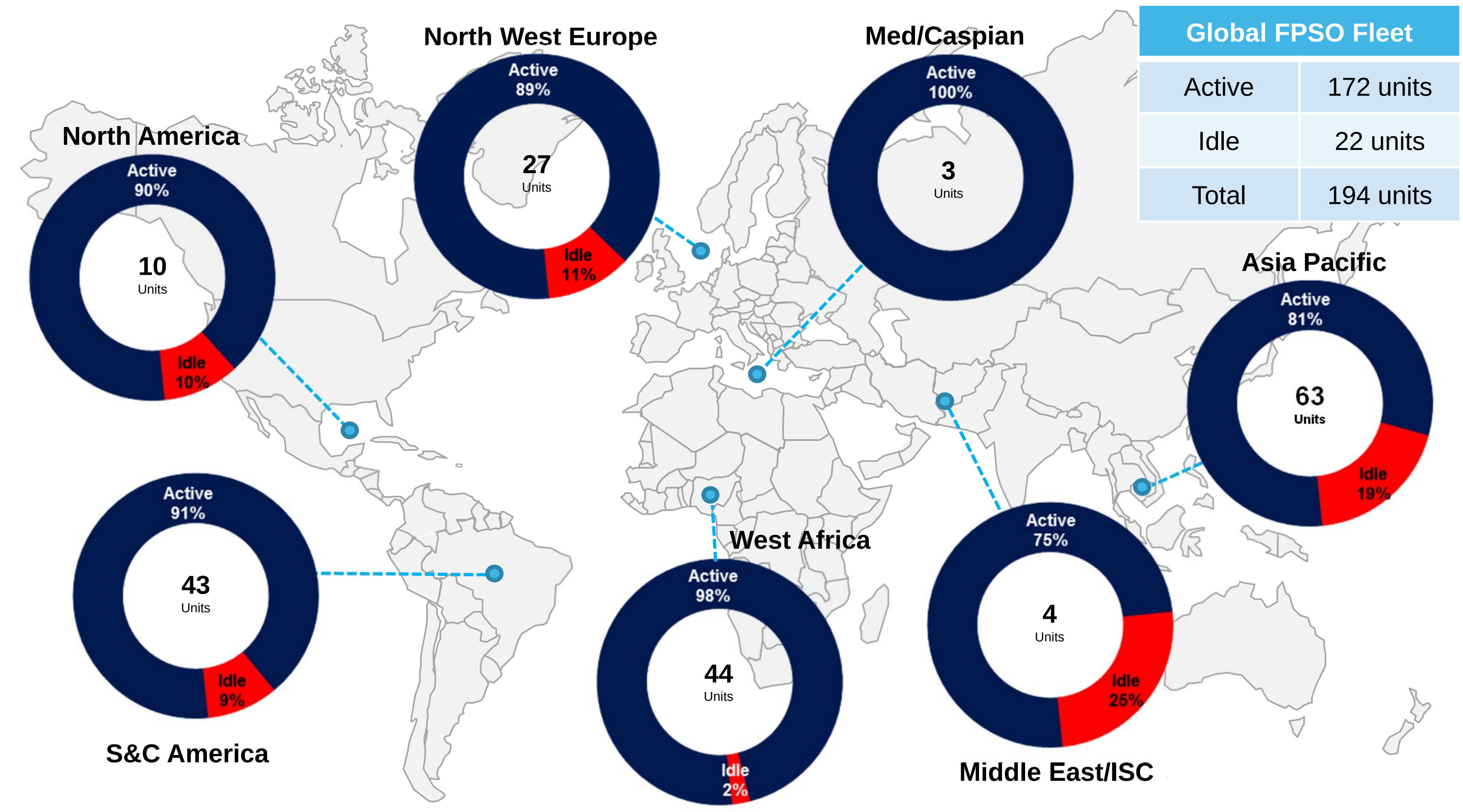
Review of the Global FPSO Markets

Clarksons Research

Global FPSO Deployment

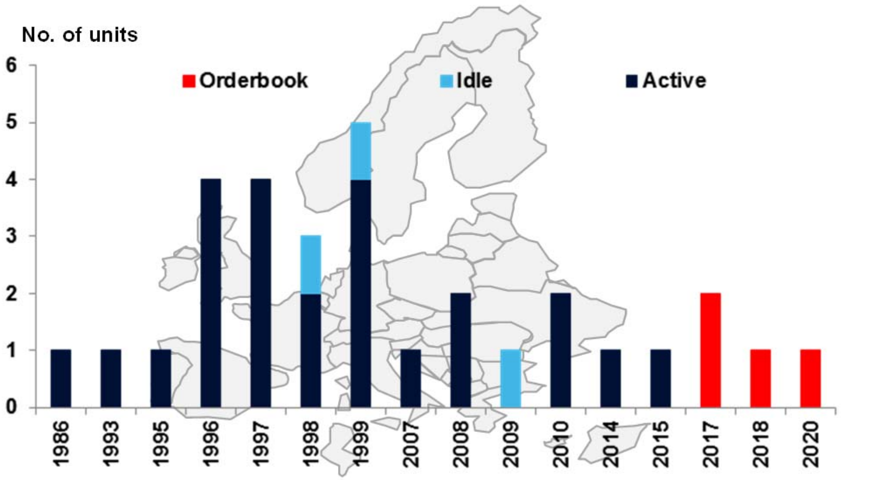
FPSO Fleet by Deployment Region (June 2016)

Global FPSO Fleet	
Active	172 units
Idle	22 units
Total	194 units

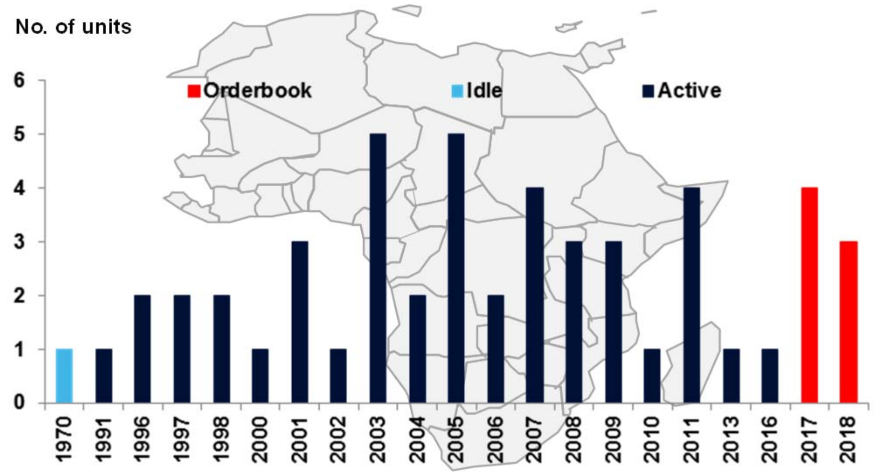


Regional Markets: NW Europe and West Africa

NW Europe FPSO Age Profile



West Africa FPSO Age Profile



Market Snapshot

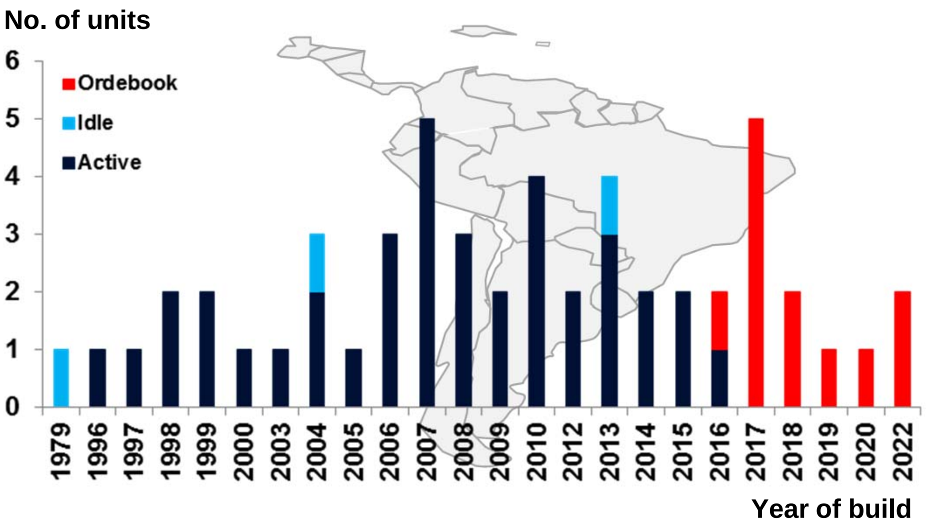
- The number of FPSOs deployed in NW Europe increased from one in 1990 to 27 at start of June 2016
- Deployment grew 13% p.a. from 1990 to 2000, while oil output increased 6% p.a. Deployment growth was rapid in the second half of the 1990s.
- MOPU deployment growth slowed to 2% p.a. from 2000 to 2010 and production fell 5% p.a. as mature fields terminally declined.
- Despite falling production volumes, high oil prices until recently supported activity on new fields in hostile conditions with marginal reserves and therefore, deployment.
- There are three fields currently being developed via a FPSO centred concept: the Catcher, Harris and Kraken fields.

Market Snapshot

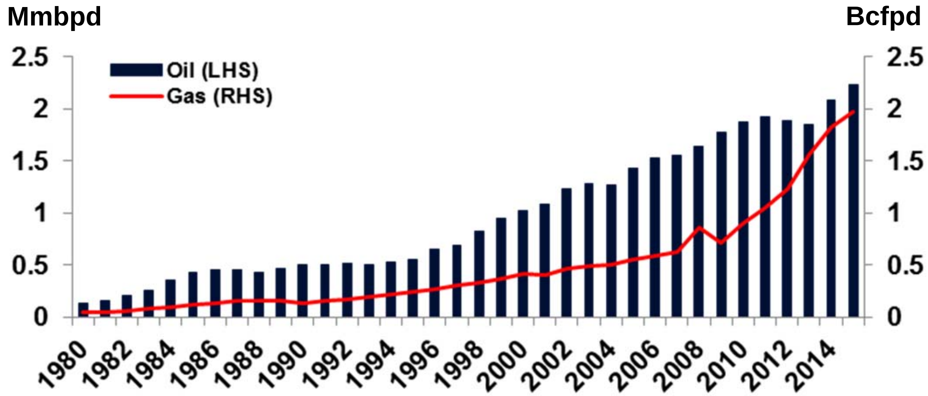
- West Africa is one of the key deployment areas for FPSOs. As of 1 June 2016, there were 44 FPSOs deployed in the region, an increase of 19 units since the start of 2006.
- This has facilitated offshore oil production growth in the region, which has increased by a CAGR of 1.4% between 2006 and 2015. Over the past decade, production capacity and water depth of regional FPSO developments have trended upwards.
- There are 13 FPSOs deployed in Angola as of 1 June 2016, with the first unit, the Girassol, deployed in 2001. Out of these, eight units are currently operating in water depths >1,000m.
- In Nigeria, the "Front Puffin" FPSO was redeployed to the Aje field, which started up in May 2016.

Regional Markets: Brazil

FSPO Deployment Offshore Brazil



Oil & Gas Production in Brazil



Market Snapshot

- At start June 2016, there were 38 active FPSOs deployed in Brazilian waters - a 22% share of the total active fleet.
- Brazil, already a significant oil producer (2.4mbpd in 2015), remains a country with huge potential.
- However, the outlook has dimmed, This has been in large part to the decline in global oil and gas prices that began in 2H 2014. Another factor is…

Operation "Car Wash"

- Operation Car Wash has paralysed the Petrobras leadership.
- The impact of these problems has become increasingly apparent. This has been compounded by the current political uncertainty: in April 2016, Brazil's congressional committee's agreed to impeach Dilma Rousseff
- At the start of 2016, Petrobras announced further cuts to its E&P budget to $98.4bn for the 2015-2019 period, down 25% compared to its initial $130.3bn for the period, and 36% less that its 2014-2018 budget.
- Moreover, it was reported in March 2016 that Petrobras is planning to downgrade its five-year investment guidance further by roughly 20% to $80bn between 2016 and 2020.
- 5 FPSOs under construction have already been impacted. The "P-67" and the "P-70" were moved to Chinese yards for topside completion due to problems at domestic yards. The building of "P-68", "P-72" and "P-73" has been suspended, pending a decision on where to build them in Asia.

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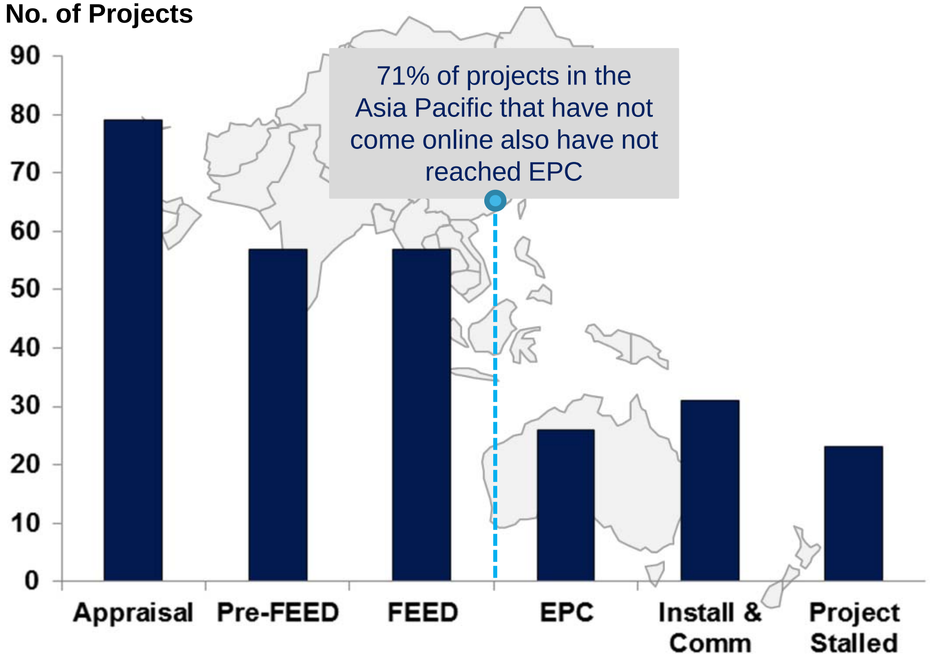
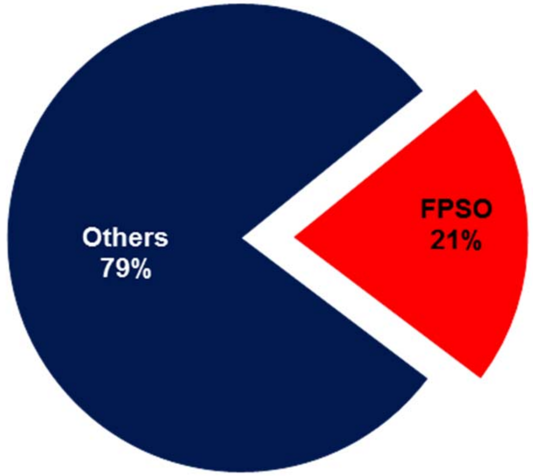
Regional Markets: Asia Pacific (1)

Profile of Offshore Oil & Gas Projects in the Asia Pacific



Breakdown of Asian Pacific Projects' Development Concepts



21% of projects in the Appraisal, Pre-FEED and FEED phases that have development concepts center around or include a FPSO solution

FPSO Projects at Risk

- The low oil price, combined with burgeoning cost overruns, has forced operators to clamp down on costs, making FPSO projects more obvious targets due to their high capital outlay.
- Unlike projects that have entered into their EPC phase where operators would have committed substantial amounts of capital, the development concepts of projects that have not received an FID might face re-conceptualisation or slippage.
- Therefore, probable and potential FPSO projects might be at risk and undergo re-design, leading to a less favourable contracting environment.

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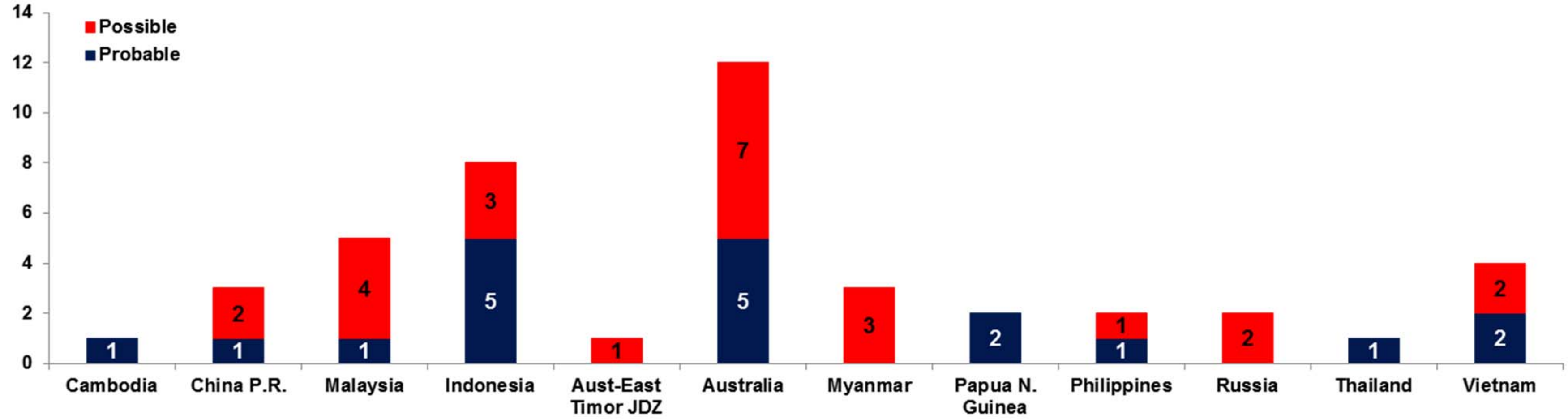
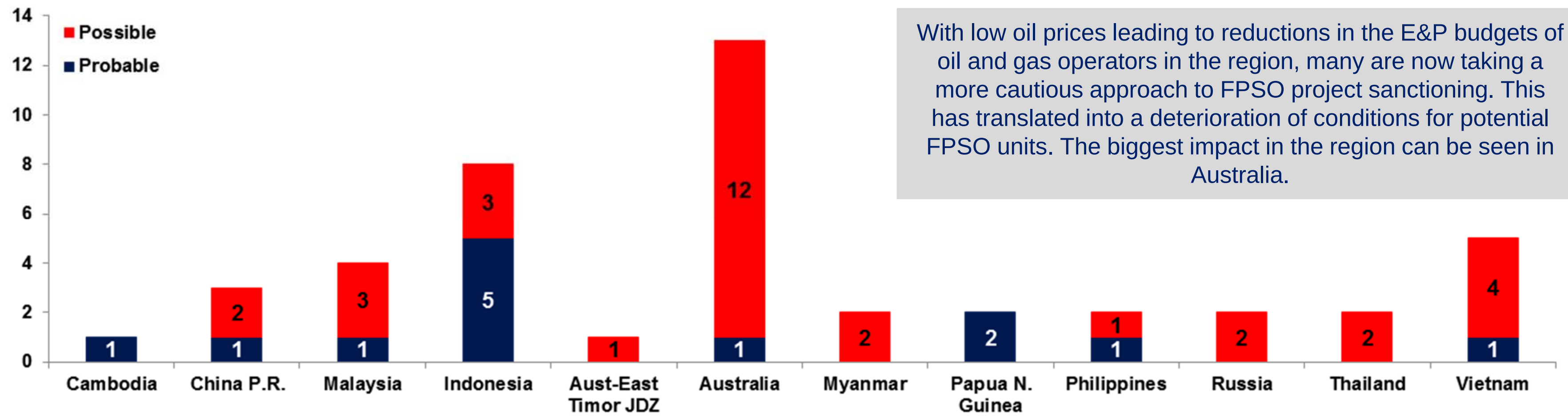
Regional Markets: Asia Pacific (2)

FPSO Potential in the Asia Pacific (June 2015)



FPSO Potential in the Asia Pacific (June 2016)

With low oil prices leading to reductions in the E&P budgets of oil and gas operators in the region, many are now taking a more cautious approach to FPSO project sanctioning. This has translated into a deterioration of conditions for potential FPSO units. The biggest impact in the region can be seen in Australia.



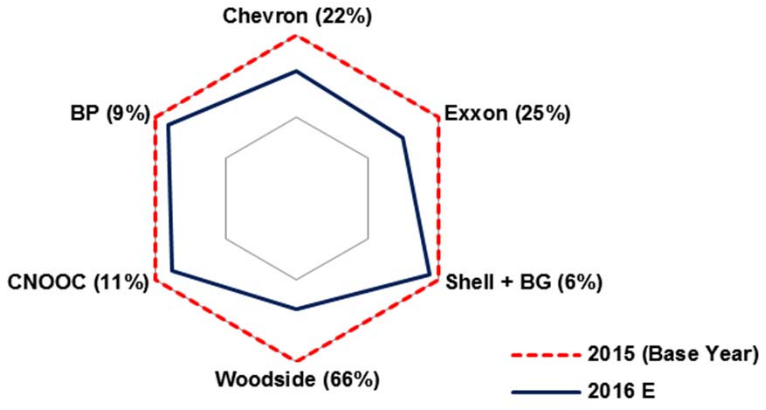
Market Trends

CAPEX and Contracting

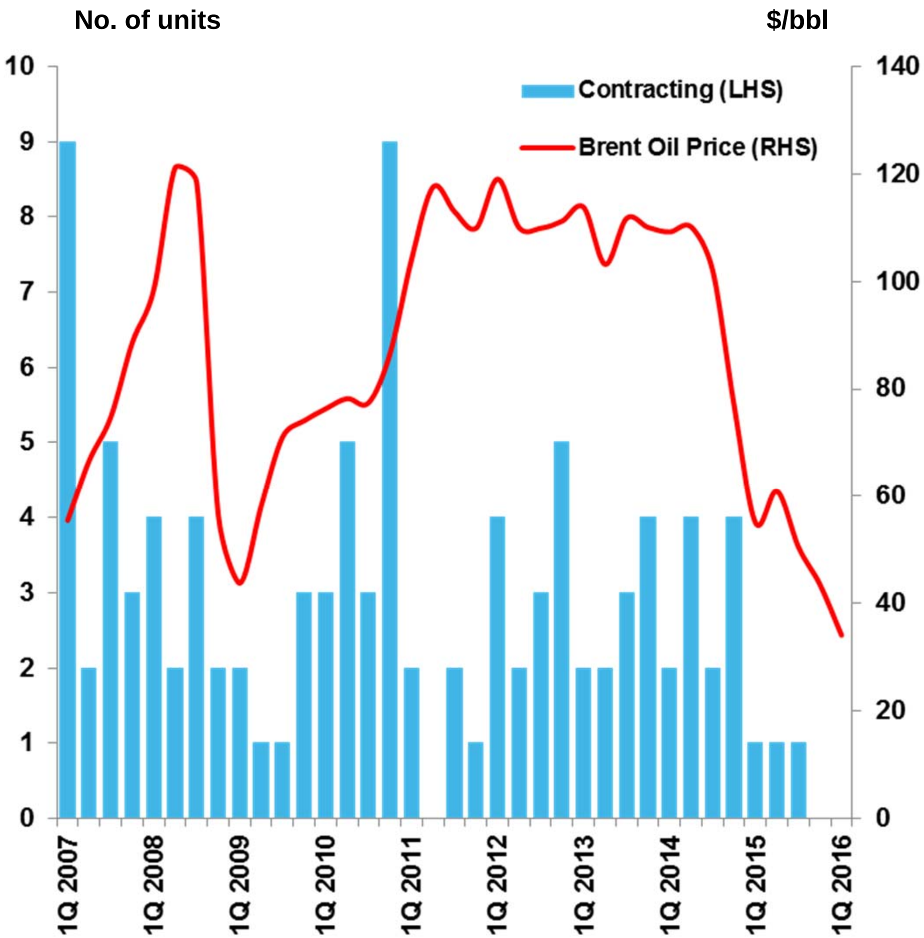
Tough Market Conditions

- Operators have experienced a severe drop in revenue across the oil spectrum, resulting in **E&P budget cuts** by IOCs and NOCs ranging on average between 20% and 40%.
- As the breakeven cost for many potential projects are above current oil prices, **FPSO fundamentals remain weak**, indicating poor sentiment and opportunities in the short term.
- FPSO sector conditions are now depressed with **sparse contracting activity**, reflecting the low oil price environment.
- Therefore, operators are clearly focused on **financial prudence**, implying that they will adopt a more cautious approach in sanctioning expensive FPSO projects in the short term.

CAPEX Reductions

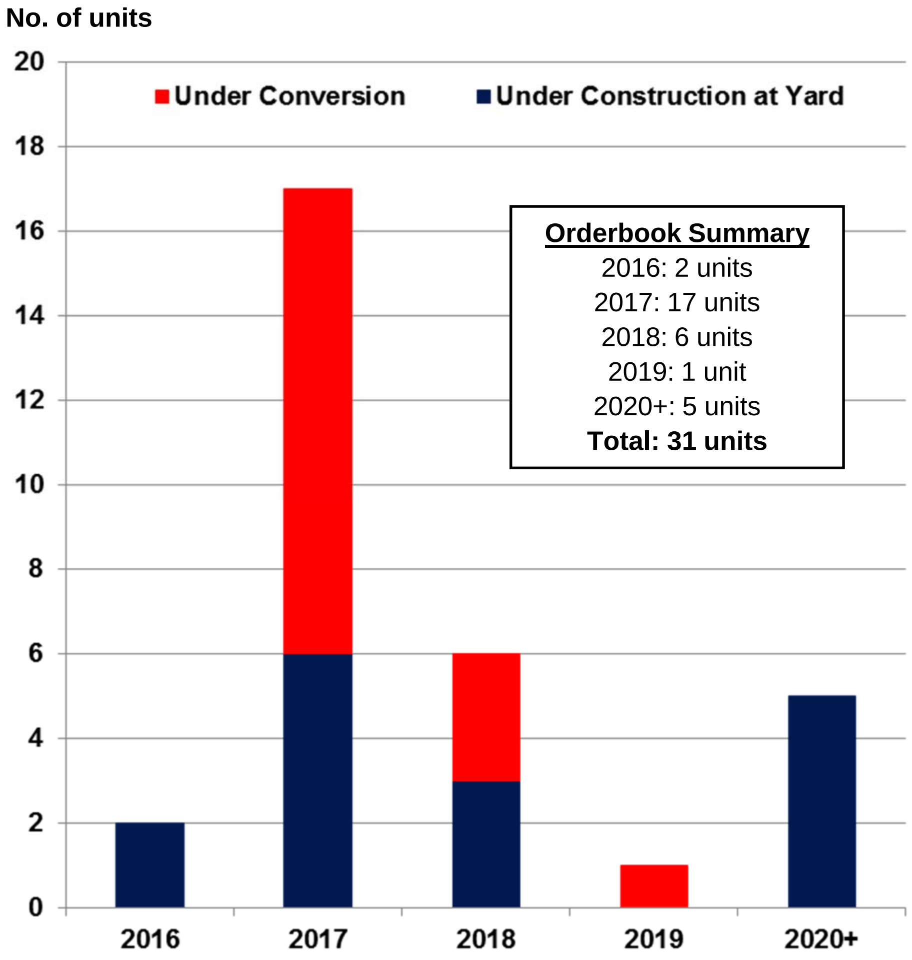


Declining FPSO Contracting Activity

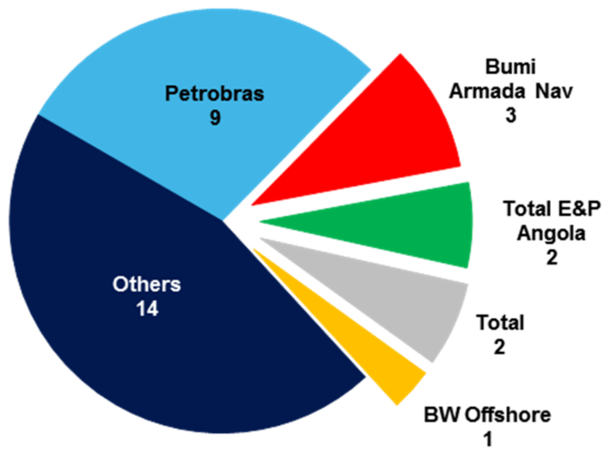


Global FPSO Orderbook

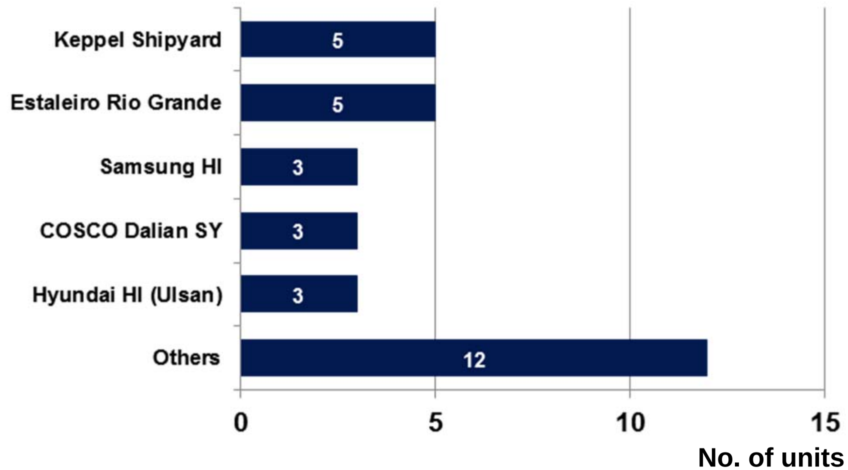
Delivery Profile of the Orderbook (No. of units)



Top 5 Owners/Managers of the Orderbook (No. of units)

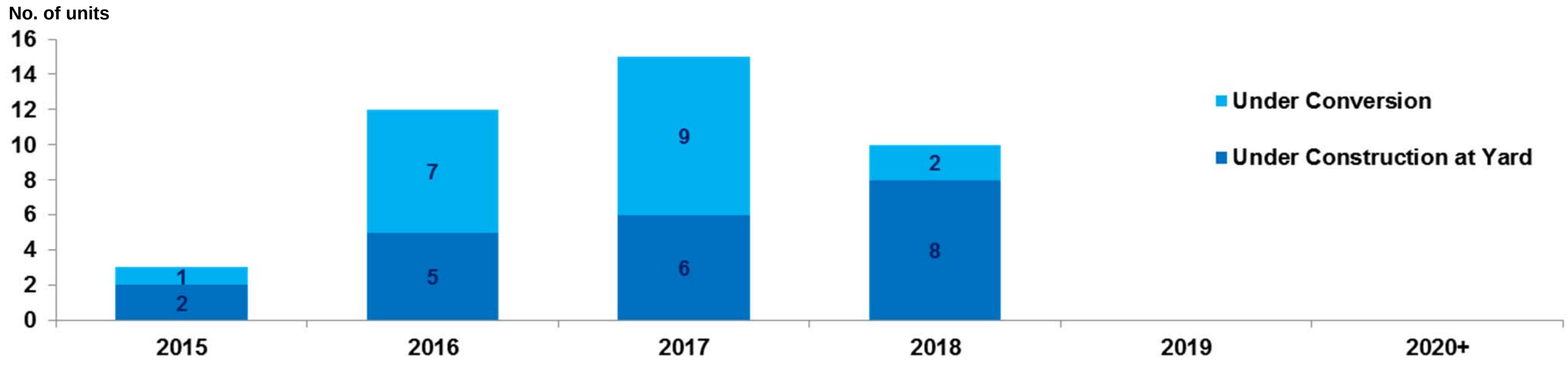


Top 5 Hull Builders of the Orderbook (No. of units)

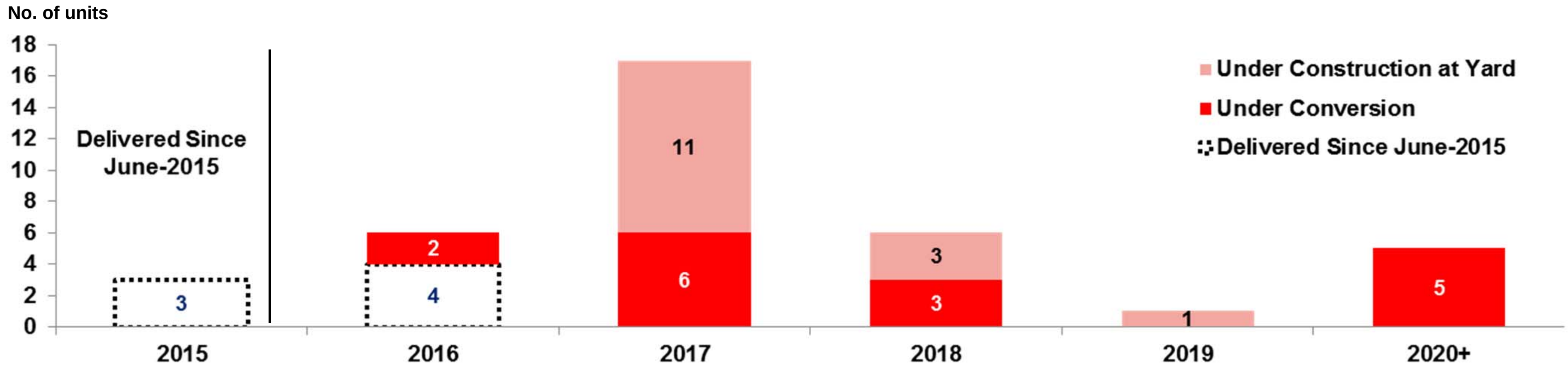


Global FPSO Orderbook: Delivery Schedule

June 2015 Delivery Schedule



June 2016 Delivery Schedule



General Market Trends: Slippage

Major FPSO Developments

1. Over the last 12 months, the delivery schedule for FPSOs has been extended over a longer time period. Over half of the units on order have seen their delivery dates pushed back or cancelled over the past year.
2. The schedule for full year 2016 has slipped from 12 units in June 2015 to only six today. On average, delivery dates for FPSOs on order over the past year have been delayed by 13 months.
3. Petrobras issues have been key, with over one-third of the current orderbook expected to be deployed in Brazil. Operation Car Wash has ensnared many executives and companies involved in FPSO construction.
4. A large number of the units currently on order are either being wholly or partly built at Brazilian yards. Three Petrobras units have been suspended over the last year, while eight on order have been delayed, with some moved to China.
5. However, Petrobras is not the only issue. Fabrication delays have also resulted from the complexity of the units and projects involved.

The low oil price environment has resulted in oil and gas projects delays, redesigns and terminations. This has then translated into a corresponding trend where slippage and cancellations on the FPSO orderbook as well as the sanctioning of potential units have become more frequent.

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FPSOs Under Construction: Delays and Cancellations

Name	Conv/NB	Original Build Date	Current Build Date	Owner	Hull Builder	Topside Fabricator
Exmar FLNG Barge 1	NB	2015	2016	Exmar	Wison Nantong	Zhoushan Wison
Egina FPSO	NB	2017	2018	Total	Samsung HI	LADOL
Ichthys Venturer	NB	2016	2017	Inpex	DSME	DSME
Jangkrik FPU	NB	2016	2017	Eni	Hyundai HI	Saipem Karimun
Kaombo GGC FPSO	Conv	2017	2018	Total	Sembawang	Saipem Karimun
Kraken FPSO	Conv	2016	2017	Bumi Armada	Keppel	Keppel
Petrobras 66	NB	2016	2017	Petrobras	Estaleiro Rio Grande	FELS-Setal
Petrobras 67	NB	2016	2018	Petrobras	Estaleiro Rio Grande	COOEC
Petrobras 68	NB	2017	-	Petrobras	Unknown Yard	Jurong Aracruz
Petrobras 69	NB	2017	2022	Petrobras	Estaleiro Rio Grande	FELS-Setal
Petrobras 70	NB	2017	2022	Petrobras	Estaleiro Rio Grande	COOEC
Petrobras 71	NB	2018	2020	Petrobras	Estaleiro Rio Grande	Jurong Aracruz
Petrobras 72	NB	2023	-	Petrobras	Estaleiro Rio Grande	
Petrobras 73	NB	2022	-	Petrobras	Estaleiro Rio Grande	
Petrobras 74	Conv	2016	2017	Petrobras	Enseada Inhauma	Aibel Thailand
Petrobras 75	Conv	2016	2017	Petrobras	COSCO Dalian	Queiroz Galvao
Petrobras 77	Conv	2017	2019	Petrobras	Enseada Inhauma	Technip-Techint
PFLNG2	NB	2018	2020	Petronas	Samsung HI	Samsung HI
Rosebank FPSO	NB	2018	2020	Chevron	Hyundai HI	Hyundai HI
Western Isles FPSO (Rinnes)	NB	2015	2018	KNOC	COSCO Nantong	COSCO Nantong

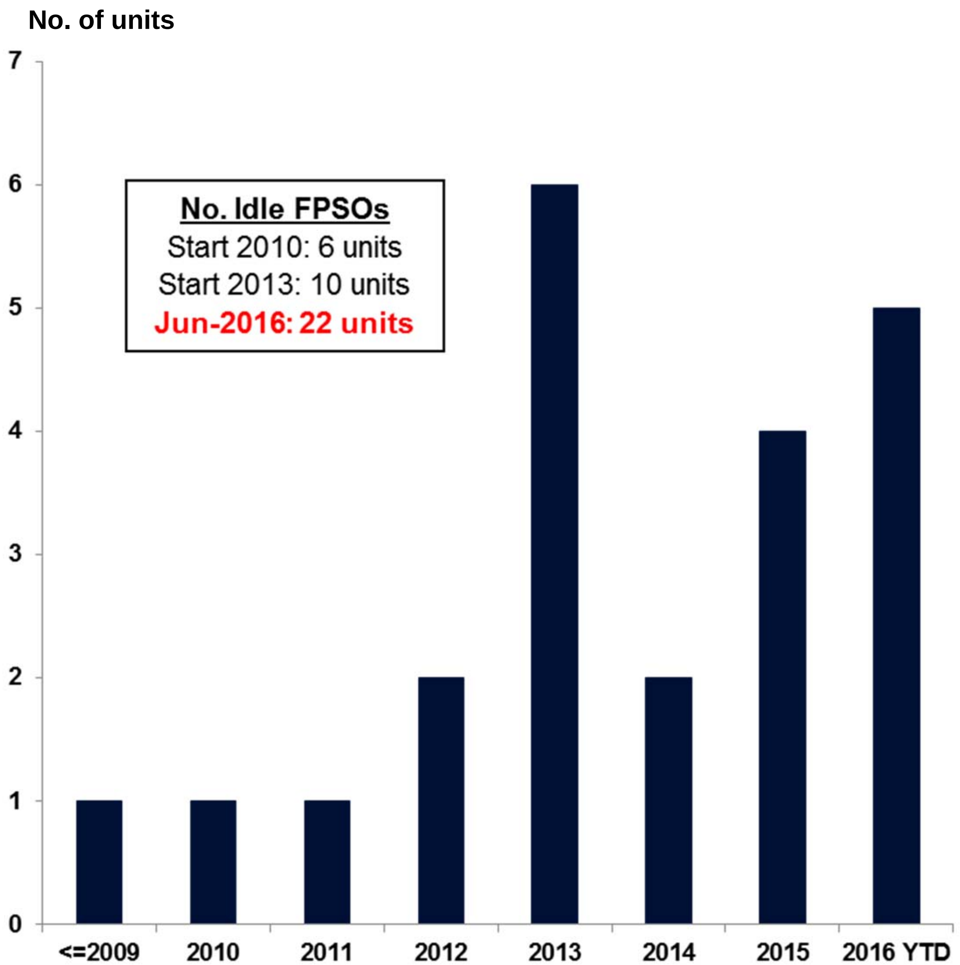
Clarksons Research

Probable Awards: Delays in Sanctioning

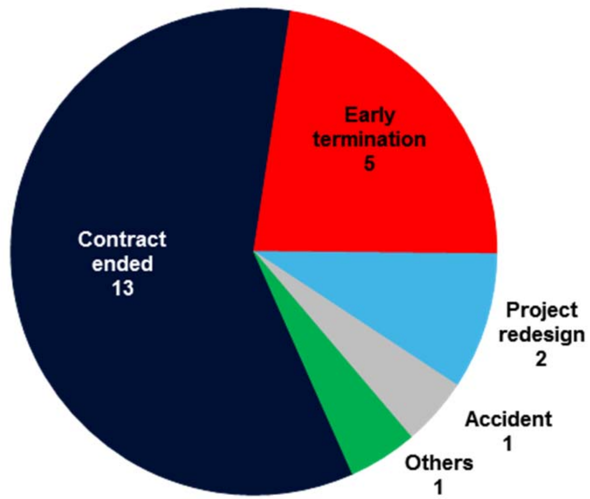
Name	Region	Status February 2015	Status April 2016	Factor In Change
Abadi FLNG	Asia Pacific	Probable – Award 2015	Terminated	Low gas prices and project redesign.
Ande Ande Lumut FPSO	Asia Pacific	Probable – Award 2015	Probable – Award 2016	FID postponed.
Atlanta (Main) FPSO	S. America	Probable – Award 2018	Terminated	Not viable
Bonga SW FPSO	West Africa	Probable – Award 2016	Probable – Award 2019	Local content requirements.
Browse FLNG 1	Asia Pacific	Probable – Award 2016	Probable – Award 2020	Project development suspended
Cameia FPSO	West Africa	Probable – Award 2015	Probable – Award 2018	Change of operator/sale of asset.
Cheviot FPSO	NW Europe	Probable – Award 2016	Probable – Award 2018	Change in operator.
Chissonga FPSO	West Africa	Probable – Award 2015	Probable – Award 2019	Unviable in current environment.
Coral FLNG 1	East Africa	Probable – Award 2015	Probable – Award 2017	Project reassessment.
Dussafu Marin FPSO	West Africa	Probable – Award 2015	Probable – Award 2019	Unviable in current environment.
Gehem FPU	Asia Pacific	Probable – Award 2015	Probable – Award 2019	Unviable in current environment.
Gendalo FPU	Asia Pacific	Probable – Award 2015	Probable – Award 2019	Unviable in current environment.
Ibhubesi FPSO	West Africa	Probable – Award 2015	Probable – Award 2018	FID postponed.
Jupiter EWT	S. America	Probable – Award 2015	Probable – Award 2017	Petrobras delays.
Libra FPSO 1	S. America	Probable – Award 2016	Probable – Award 2018	Petrobras delays.
Sea Lion FPSO	S. America	Probable – Award 2016	Probable – Award 2018	Delays in FEED process.
SEDA-PAJ FPSO	West Africa	Probable – Award 2017	Probable – Award 2019	Unviable in current environment.

"Idle" FPSOs

Idle FPSOs by Year of Demobilisation



Reasons for Idle FPSOs (June 2016)



Idle FPSOs

- Since 2009, inactive FPSO units peaked in June 2016 at 22 units. Utilisation rates have continued to decline and are now below 90%.
- The main reason driving the number of idling FPSO units stems from weaker demand as oil and gas companies cut back of their E&P spend.
- This has resulted in FPSOs, which have come off charter, to remain idle. In some cases, the tough market conditions have also led to project redesigns and early terminations, further adding to the number of inactive units.

The Redeployment Option

Drivers & Challenges of Redeployment

Demand Drivers

- Access to "hot" unit with experienced operator and proven uptime.
- Potentially short lead time and attractive cost.
- Viable solution for extended well test and early production.
- Potential cost benefit.
- Established management system/maintenance system/operation routines.

Challenges

- Uncertain availability and exact scope of the modifications required.
- Challenge to match technical requirements.
- Sub-optimal process plant equates to reduced recovery rate.
- Timing may be a challenge.

***The Petrojarl I*: A redeployment success story**

Successful Redeployments

10+

Petrojarl I

- Heavily redeployed unit. All previous redeployments in NW Europe
- Currently undergoing repairs for another redeployment at the Atlanta field offshore Brazil as an EPS for three years. Project completion anticipated at 4Q16 due to difficulties in module retrofit.

2

Glas Dowr

- Vessel started its life on the Durward field in NW Europe
- Redeployed to the Sable field (1999) then to the Kitan field (2011).
- In Sep 2015, Eni terminated the charter early. Unit removed in Jan 2016.

1

Voyageur Spirit

- The Voyageur Spirit commenced operations on the North Sea's Shelley field in 2009.
- In 2012, the unit was redeployed to the Huntington field on a five-year charter.

1

Perisai Kamelia

- The Perisai Kamelia originally started work at the Arthit North field in the Gulf of Thailand in 2007.
- The unit was then redeployed to the Bunga Kamelia field in 2013 on a three-year charter with Hess.

Potential Redeployment Candidates

Munin

- Unit came off hire in 2012 and is currently the subject of detailed negotiations with Pemex for a 10-year lease for extended well tests offshore Mexico.
- That being said, talks seem to have stalled as oil price conditions have deteriorated .

Glas Dowr

- A Bluewater unit, it came off hire in December 2015 after its charter was cancelled.
- However, according to the owner, there are redeployment opportunities for the *Glas Dowr* in West Africa, Brazil and the North Sea.

BW Athena

- Owned by BW Offshore, it was demobilised in March 2016 following the cancellation of its contract with Ithaca Energy.
- The unit is likely to remain in the North Sea, but redeployment opportunities are sparse.

Petrojarl Varg

- The Teekay owned unit is currently operating on the Varg field in the North Sea.
- Unit will continue to work here until August 2016 after which, it will come off charter.
- According to Teekay, the unit is to stay within the North Sea.

Clarksons Research

FPSO Contract Award Outlook

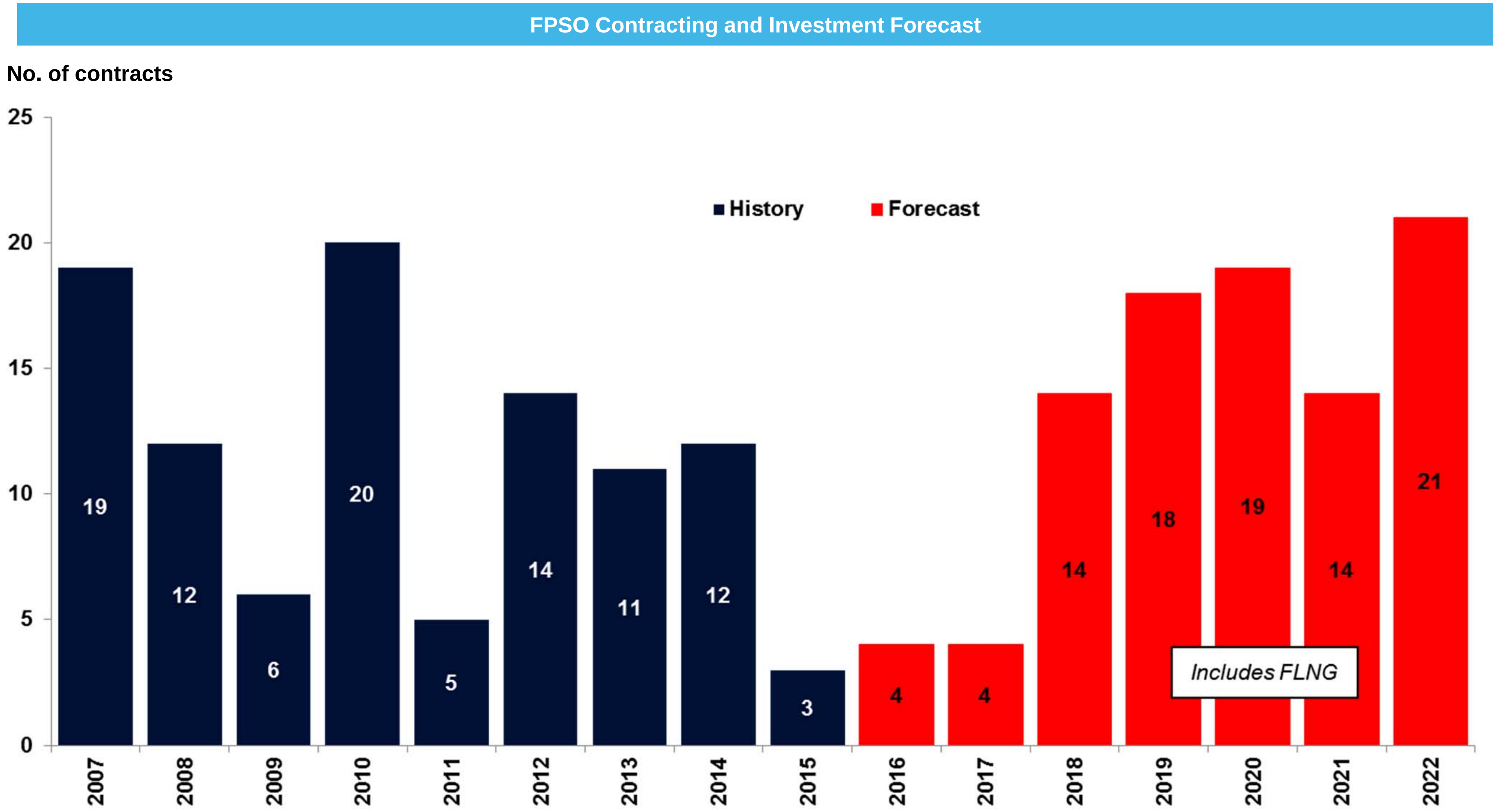
Clarksons Research

Expected FPSO Contract Awards: Short Term

2016	2017	2018
Ande Ande Lumut FPSO – APAC Ca Rong Do FPSO – APAC Madura MDA/MBH FPU – APAC Golar FLNG 2 (Gandria) – West Africa	Cameia FPSO – West Africa Echidna-Kangaroo FPSO – S&C America Ayatsil FPSO – North America Coral FLNG 1 – Middle East/ISC	Apsara FPU - APAC E6 FPSO - APAC Liuhua 16-2 FPSO – APAC West Linapacan FPSO – APAC Ibhubesi FPSO – West Africa Cheviot FPSO – NW Europe Johan Castberg FPSO – NW Europe Libra FPSO 1 (Pilot FPSO) – S&C America Marlim Revitalisation FPSO 1 – S&C America Sepia FPSO – S&C America Sea Lion FPSO – S&C America Aphrodite FPSO – Med PY-3 FPSO – Middle East/ISC Golar FLNG 3 (Gimi) - Speculative
4 probable contract	**4 probable contracts**	**14 probable contracts**

Clarksons Research

Future FPSO Order Potential



Clarksons Research

Concluding Remarks

- **FPSO market remains under significant pressure and contracting has come to a standstill**. Low global oil and gas prices have reduced sanctioning potential for new units, as well as seeing some charter rates on existing units reduced or cancelled.
- **Delays to projects under construction and the sanctioning of new projects have become an industry feature**. 10 units expected to be sanctioned in 2015 have been delayed, while the delivery of over half of the units under construction have been either pushed back or cancelled in the last 12 months.
- **Redeployment solutions, theoretically, have become more attractive** to oil companies and operators. However, sizeable obstacles remain in putting this into place.
- **Ordering potential in the short term does remain, but will be limited to smaller, marginal plays, largely in SE Asia**. 4 contracts are currently forecast in full year 2016 and 2017.
- **The outlook for FLNG has also deteriorated, in line with falling global gas prices**. Delays to units on order, and to potential projects, have undercut sentiment in this new sector.
- However, there is **more positivity in the longer term**. In line with a forecast improvement in global oil prices, **the backlog of potential FPSO projects begins to be sanctioned more rapidly in 2018-2021**.

Clarksons Research

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H. CLARKSON & CO. LTD, COMMODITY QUAY, ST. KATHARINE DOCKS, LONDON, E1W 1BF

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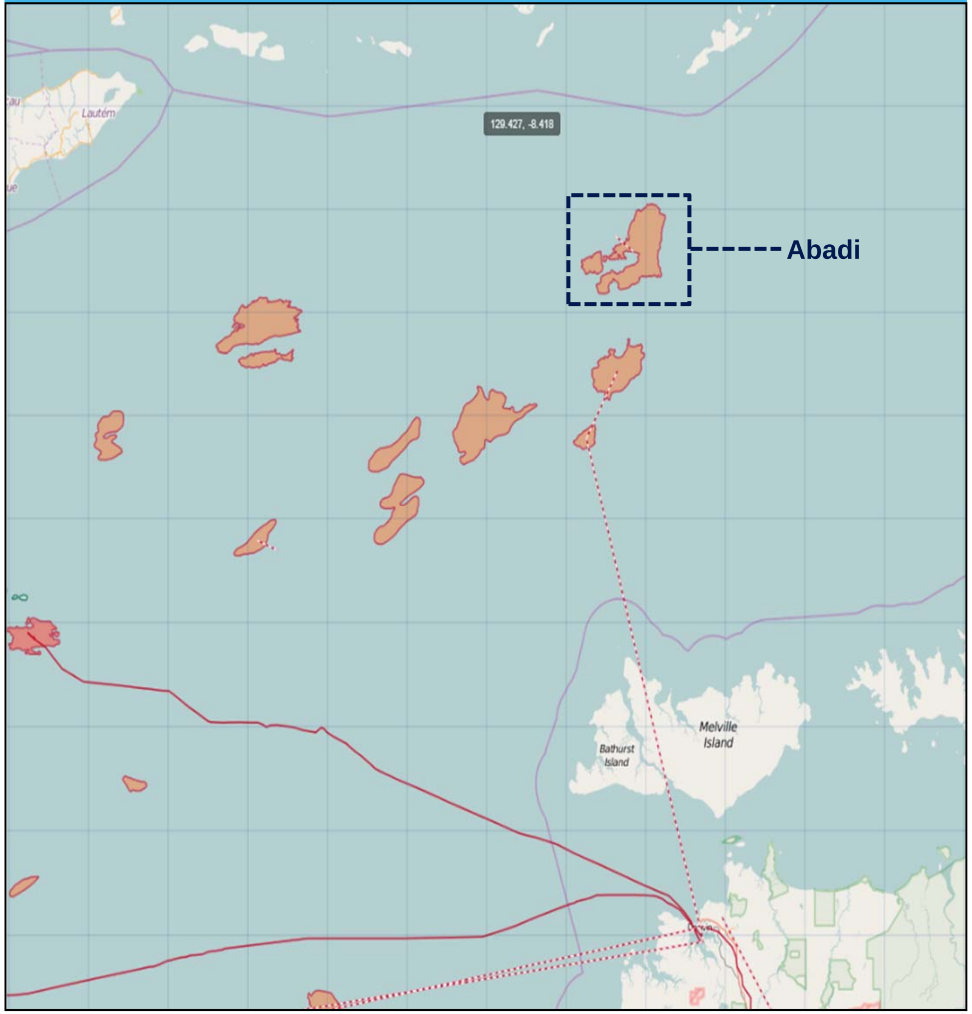
Annex - Examples

Cancellations: Abadi FLNG

Abadi Field



Summary Table

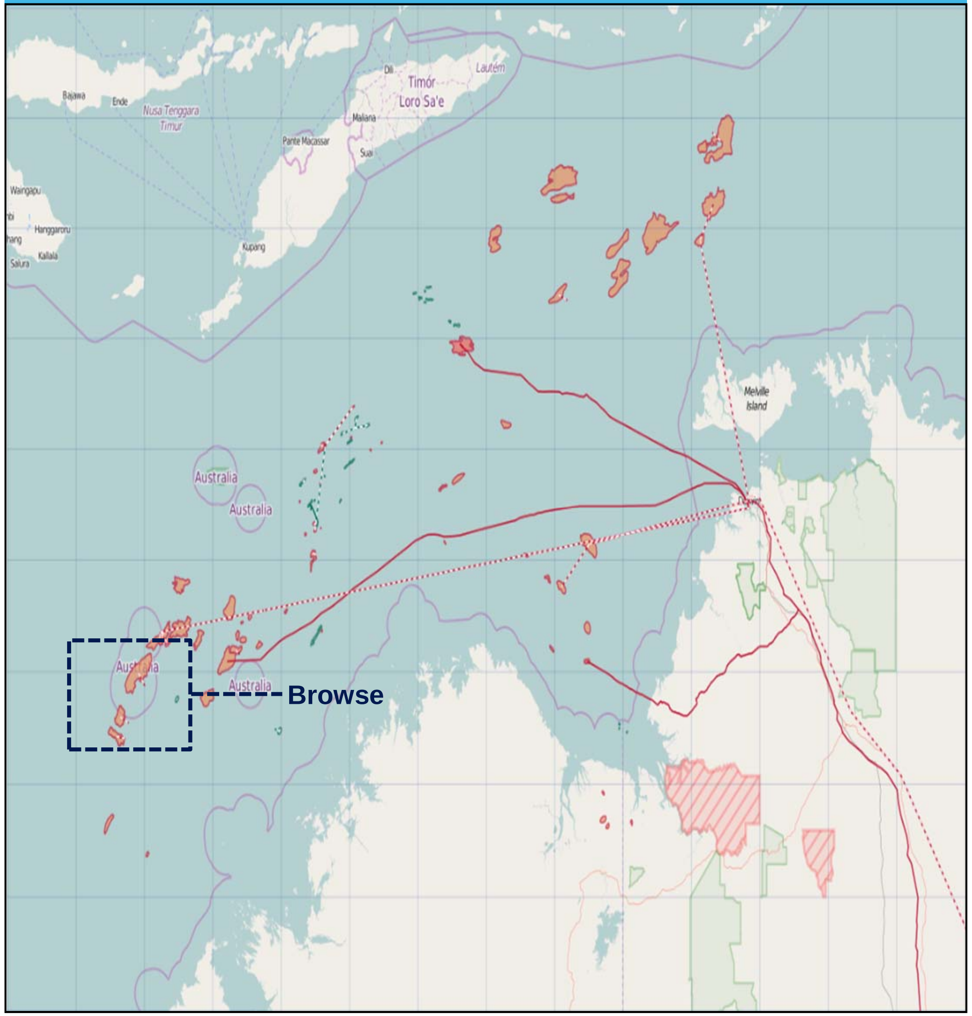
Fields	Abadi
Country	Indonesia
Distance from Shore (km)	102
Water Depth (m)	650
Lead Company	Inpex
Current Status	FEED
Previous Forecast Award Date	2016
Estimated Field Start Up	2026

Key Developments

- Discovered in December 2000 via the Abadi-1 wildcat and subsequently appraised by two successful appraisal wells
- Inpex had previously proposed a 2.5 mtpa FLNG solution, which was approved by Indonesian regulators. Later, a revised development plan for a 7.5 mtpa FLNG vessel was submitted after firming up higher levels of reserves .
- However, a competing proposal for an onshore solution was suggested by local parties, citing benefits to the domestic economy.
- In April 2016, Indonesia's Ministry of Energy & Mineral Resources confirmed that they are opting for an onshore solution, which was reportedly decided by Indonesian President Joko Widodo.

Delayed Sanctioning: Browse FLNG

Browse LNG Development



Summary Table

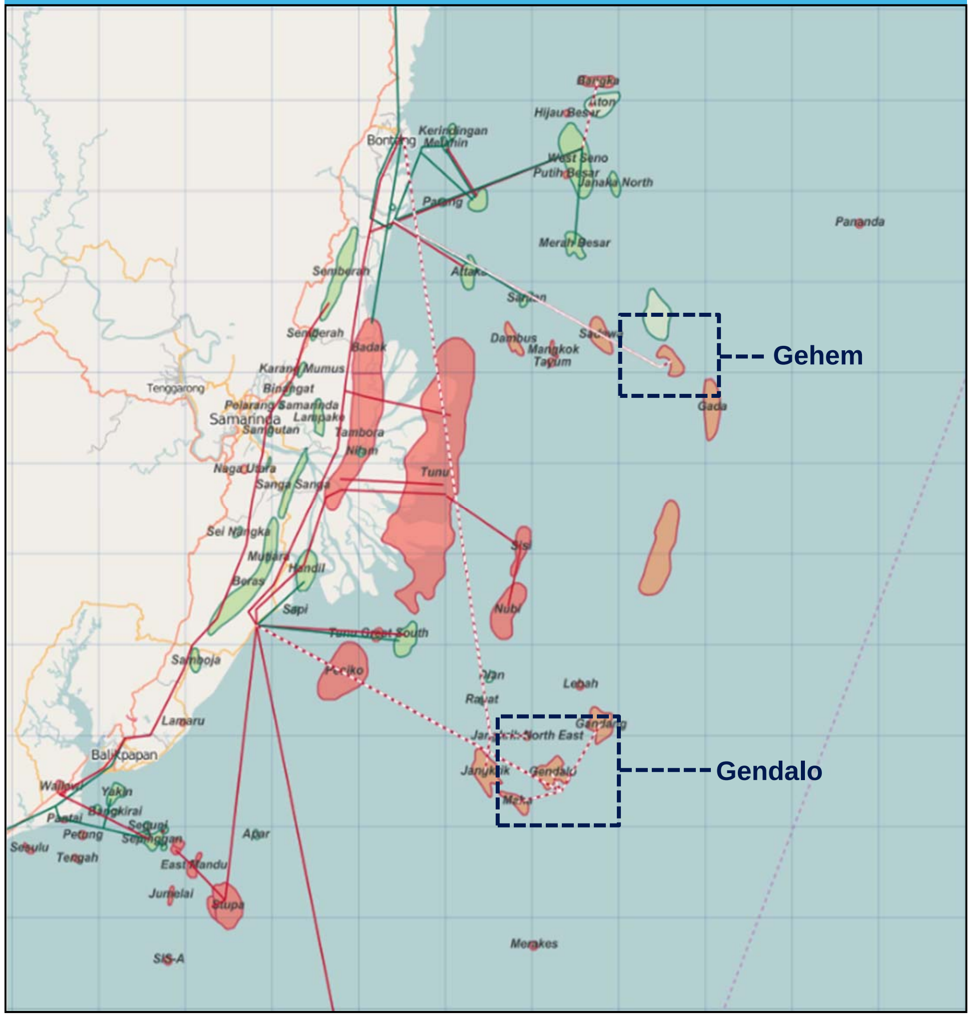
Fields	Brecknock/ Calliance/ Torosa
Country	Australia
Distance from Shore (km)	259
Water Depth (m)	570
Lead Company	Woodside/Shell
Current Status	Suspended/ Delayed
Previous Forecast Award Date	2017
Estimated Field Start Up	2027

Key Developments

- Represents first stage of the Browse LNG Development, which will comprise distinct FLNGs on three fields, the Brecknock, the Calliance and the Torosa fields.
- Each FLNG was designed to produce between 3.5 and 4.0 mtpa of LNG.
- In July 2015, Shell reportedly arranged for the building of 3 FLNG hulls and reserved yard space at Samsung.
- Technip-Samsung consortium has completed FEED studies, while the SBM Offshore has been contracted to perform the FEED stage for the turret systems required for the units.
- Woodside and its JV partners suspended work at the development while also reaffirming their commitment the project’s FLNG concept, economics permitting.

Delayed Sanctioning: Gehem & Gendalo FPUs

Browse LNG Development



Summary Table

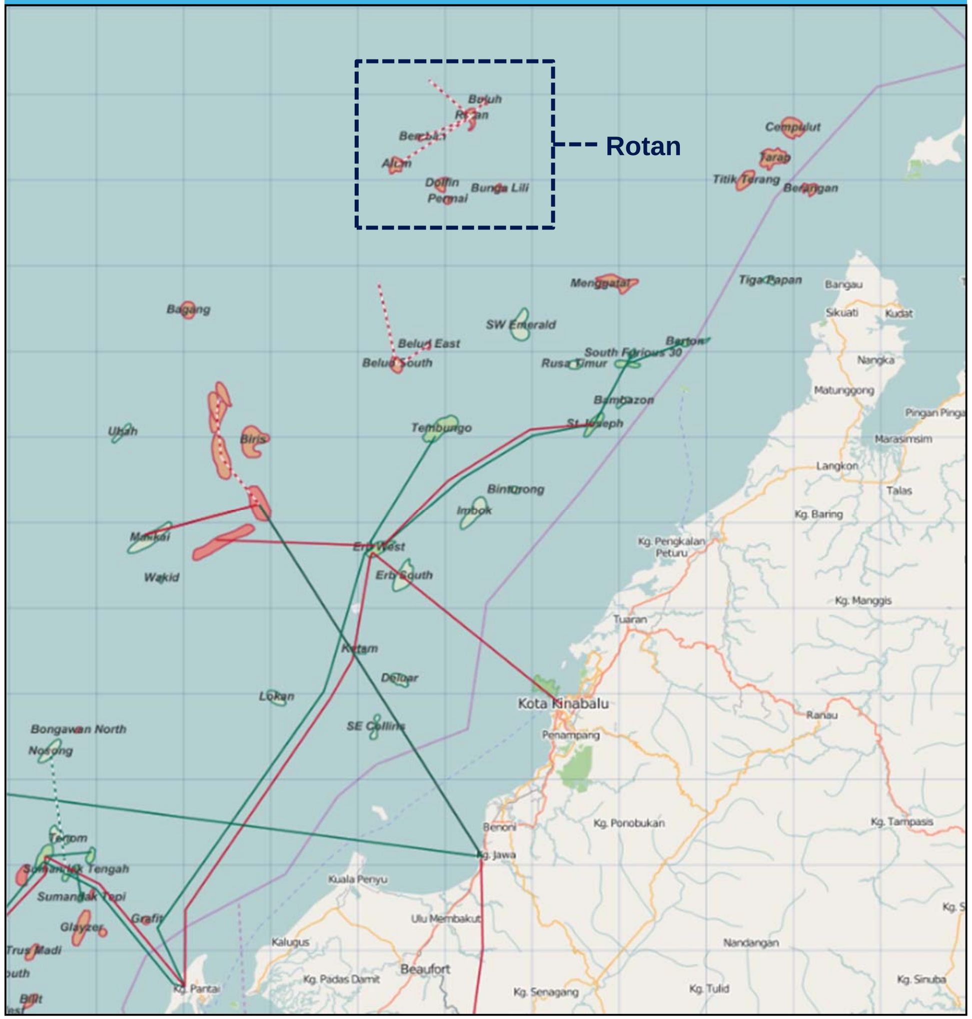
Fields	Gendalo/ Maha/ Gandang/ Gehem
Country	Indonesia
Distance from Shore (km)	Gehem (55), Gendalo (61)
Water Depth (m)	Gehem (1,823), Gendalo (1,425)
Lead Company	Chevron
Current Status	Appraisal/FEED
Previous Forecast Award Date	2015
Estimated Field Start Up	2022 (Gendalo) 2023 (Gehem)

Key Developments

- Chevron's flagship deepwater development in Indonesia, consisting of five fields and are collectively dubbed as the Indonesia Deepwater Development (IDD).
- Chevron plans to develop four of these five fields via two FPUs, with one FPU on the Gehem and Gendalo fields each.
- The build contracts for both FPUs were supposedly going to be awarded in 3Q13, but issues regarding local content requirements led Chevron to re-tender the contract.
- But, continuous delays pushed back these contract awards which were originally expected to be re-tendered in 2015.
- In January 2016, Chevron filed a revised plan of development, where the Gehem and Gendalo fields are now targeted for start-up in 2022 and 2023.

Orderbook Slippage: PFLNG2 (Rotan)

Rotan Field Cluster



Summary Table

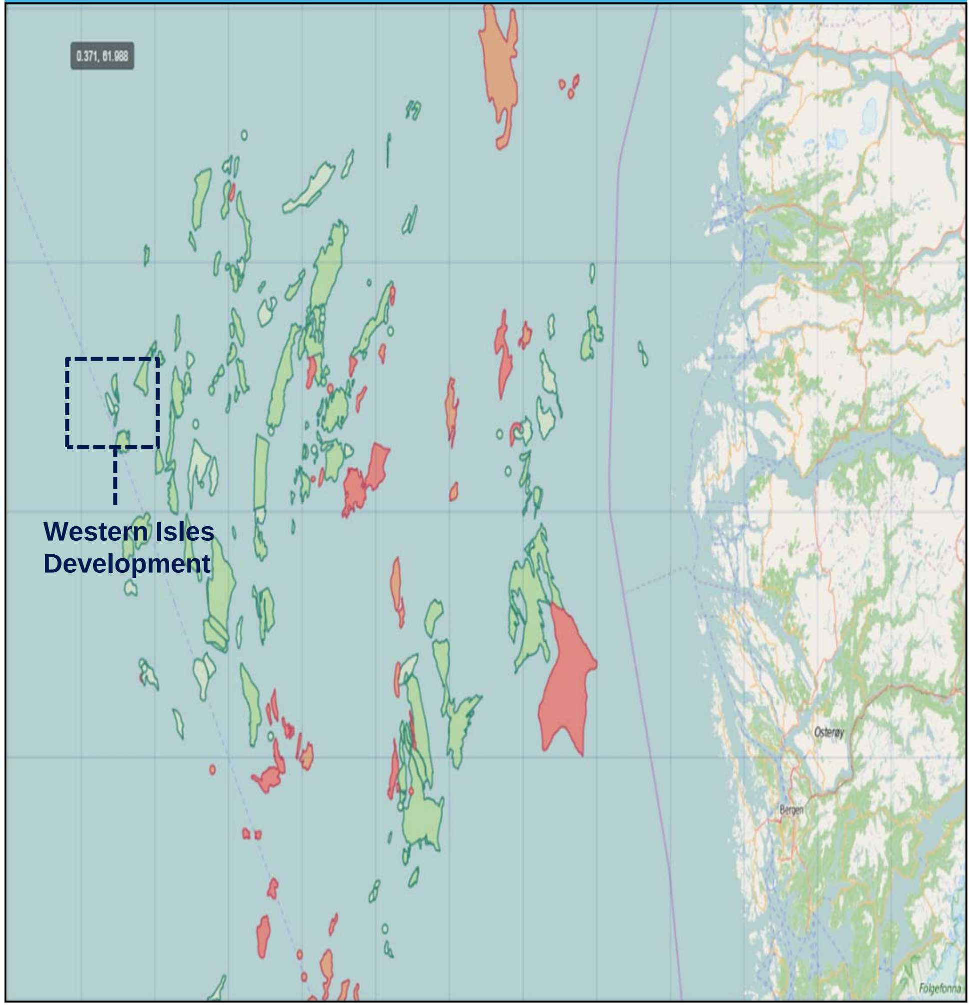
Fields	Alum/ Bemban/ Buluh/ Rotan
Country	Malaysia
Distance from Shore (km)	101
Water Depth (m)	1,150
Field Operator	Murphy Oil
Lease Owner	Petronas
Current Status (FPSO)	Suspended/ Delayed
Original Delivery Date	2018

Key Developments

- PFLNG-2 was scheduled to start production in 2018. The sister project to the PFLNG-1 (Kanowit) unit, it is currently under construction.
- However, Petronas has suspended construction of the unit for up to two years, as part of the company’s $12bn cost cutting exercise.
- In May 2016, Petronas launched the completed hull of the PFLNG2 at Saumsung HI in South Korea.
- Work on the topside fabrication was due to be completed by JGC, while SOFEC had been contracted to fabricate an external mooring system in China.
- Ultimately, delivery of the unit is now likely to be delayed until at least 2020.

Orderbook Slippage: Western Isles Development

Browse LNG Development



Summary Table

Fields	Barra/ Harris/ Lewis/ Uist
Country	U.K (North Sea)
Distance from Shore (km)	Harris (91)
Water Depth (m)	Harris (155)
Lead Company	Dana Petroleum (E&P) Ltd
Current Status	Installation & Commissioning
Contract Award Date	2012
Estimated Field Start Up	2018

Key Developments

- The fields in the Western Isles Development are considered high quality oil accumulations. Various development concepts were initially considered but an FPSO solution was eventually chosen in January 2010.
- Subsea components of the development concept will include five production wells and four water injection wells, with surplus gas exported via pipeline.
- The Sevan Marine and COSCO consortium was awarded the cylindrical FPSO order in July 2012, where construction is taking place at COSCO Nantong's Shipyard.
- However, the start-up at the Western Isles Development was pushed back to 4Q17 due to construction delays at COSCO Nantong's Shipyard.

Commercial Insurance Market Solutions

Oliver Paine, Energy Class Underwriter
The Standard Syndicate 1884

21 June 2016

Contents

The Standard Syndicate Approach

The Standard Syndicate

Deep understanding of Marine and Energy business

- Builds on The Standard Club's 130 years of experience and represented in our Syndicate number - 1884

Wrap around cover for our assureds - "the whole package"

- We have the capability to cover the entirety of our clients' typical operational insurance needs:
  - **Liabilities:** P&I, Marine and Corporate Lines (D&O/E&O)
  - **Assets:** Hull & Machinery, Cargo, Specie, Property (Marine and Non-marine)
  - **Specialist Risks:** Political Violence & Terrorism

Tailored and flexible covers underwritten by experts

- Highly experienced, client-focused Underwriting team
- Solution-based underwriting philosophy
- Tailored, responsive insurance programs and exemplary claims handling services
- Risk management initiatives and services

Lloyd's insurance in local markets

- Global reach through our Service Companies and strategic Partners
- Compliant, flexible underwriting and claims services where our Clients are located
- Coverage provided locally or via Lloyds depending on Clients and their Brokers' preference

What does The Standard Syndicate cover?

The Standard Syndicate

Liabilities	Marine & Energy Liability	• Marine energy related non-P&I liabilities, fault-based liabilities for port & terminal operators, and various other non-P&I marine liabilities	• USD 20m
	Corporate Lines	• Marine Errors & Omissions and Directors' & Officers' Liabilities	• USD 10m
Assets	Hull & Machinery	• Hull & Machinery for bulk cargo, liquid cargo, container, passenger / ferry, small ships and yachts • Increased Value, Mortgagees' Interest and War	• USD 15m
	Cargo & Specie	• General and specialist cargo, logistics, ROVs, specie	• USD 15m • USD 25m PR
	Wet and Dry Property	• Ports, terminals, warehouses & other storage facilities, storage of goods not covered in cargo policies • Non-marine property (e.g. head offices, Manufacturing plants, forestry products)	• USD 15m
Specialist Risks	Energy	• Physical damage relating to the marine energy business, including construction risks and control of well, and covering mobile installations, fixed platforms, and associated onshore facilities	• USD 25m (USD 35m any one complex or asset)
	Political Risks & Political Violence	• Terrorism, Political Violence, War on Land, CNED, Contract Repudiation, Contract Frustration, Trade Credit	• USD 12.5m

Line sizes as at 1 Jan 2016

Class Summary – Energy

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Line Size(s)

- $25m per policy limit all coverage combined
- Combined single limit (“Asset”) up to USD 35m

Key Geographies

- Worldwide

Underwriting Appetite

- Property owned or leased by operators and/or contractors within the oil and gas industry such as offshore platforms, drilling rigs and FPSO’s. Assets may be located offshore or onshore
- Oil, Gas or condensate wells offshore or onshore
- Business Interruption/Loss of Production Income
- Construction projects for offshore installation
- Liabilities written in conjunction with separate Liabilities class when under a packaged policy

Out of Appetite

- Downstream
- Power and Petrochemical plants
- Renewable energy
- Oil sands
- Onshore only Construction projects
- Stand-alone Business Interruption/Loss of Production Income

Terms and conditions

- Normal commercial exclusions will apply
- Operational policies over 18 months in period and construction projects over 5 years plus maintenance & discovery
- Sanctioned countries and individuals
- Non-Lloyd’s licensed countries
- Fronting for markets

Hull and other Property

The Standard Syndicate

Interest

Coverage provided hereon in respect of Units as per schedule attached, deemed to include (where appropriate):

Vessels, Topsides, Processing Equipment, Turret, Anchors and Moorings Lines, Chains, Wires, Buoy, PLEM, Floating hoses (being unit to tanker transfer hoses) and all other appurtenances connected therewith whilst used within a production, processing and storage system, nothing excluded, to the extent to which the insureds are contractually responsible for these systems. Coverage in respect of Risers (including Umbilicals) provided as required.

Hull and other Property

Wordings

- Various market wordings available to FPSO owners such as:
  - Institute Time Clauses Hulls Port Risks CL312 (20.07.87)
  - Nordic Plan 2013, Version 2016
  - Bespoke property wording – often deployed on operators' package policies
  - Usually Removal of Wreck/Debris excess of P&I entry
- Typical exclusions and limitations include:
  - Excluding Collision
  - Excluding P&I
  - Additional interests as per Institute Clauses limited to an additional 25% or 50%

Operators' Extra Expense (Control of Well)

The Standard Syndicate

Wording EED 8/86 or a subsequent evolution

- Three Sections
  - A) Control of Well
  - B) Redrilling/Extra Expense
  - C) Seepage and Pollution, Cleanup and Containment
- Trigger for coverage is a Control of Well incident
- Extended Redrill and Restoration Cost endorsement
- Operators typically purchase a minimum of 3 times the AFE cost of a drilling well as limit and often lower limits for producing, shut-in and P&A wells
- Pollution from wells coverage under Section C is primary to that provided for under Third Party Liabilities wording

LOPI/CBI/LOH

Loss of Production Income

– Operators' loss of production income following a physical loss or damage to own asset such as an FPSO

– Wording JR2005/003A widely adopted

Contingent Business Interruption

– Taken out by field operators to cover shortfall in reservoir production following physical loss or damage to a third party owned assets 'Dependency Premises' (e.g. a contractor leased FPSO)

– Wording as per LOPI and Dependencies Premises must be clearly scheduled

Loss of Hire

– Contractor cover for loss of earnings following physical loss or damage to own asset

Third Party Liabilities

Wordings:

- JL 2013/006 London Umbrella Wording (occurrence form)
- JL 2013/007 London Claims Made Wording
- Excess of P&I entry
- Excess Seepage & Pollution from wells (excess of OEE cover) subject to deletion of exclusion

- Supplementary Exclusions usually apply:
    - Supplementary Exclusion B (CGU12Z)
    - LSW 245 (with respect to older LSW 244 Excess Liability Claim Made Policy)
    - Crew and Cargo excluded from excess P&I coverage

www.syndicate1884.com

The Standard Syndicate

The Standard

P&I cover for production operations

Joseph Divis, Underwriter

21 June 16

P&I Club Cover

- Cover for :

  - **Third Party Liabilities arising out of the operation and management of the entered ship/unit**

- Dedicated Offshore Division offering:

  - Mutual; and

  - Fixed solutions

  - Up to **$1bn** fixed cover (highest in IG)

Mutual P&I cover (poolable cover)

- Crew
- Pollution from the ship
- Wreck removal of ship
- Collision/dock damage
- Cargo/property on board

Mutual P&I cover (poolable cover)

- Limits

  - $7.9 billion (approx)

    - $3bn passenger and crew
    - $1bn pollution

Access to poolable cover governed by Pooling Agreement

Drilling & Production exclusion

The Standard

Drilling and production operations

5.12.1 Liabilities incurred in respect of the ship, being a ship or any other description of vessel or unit constructed or adapted for the purpose of carrying out drilling operations in connection with oil or gas exploration or production.

5.12.2 Liabilities incurred in respect of the ship, being any ship carrying out drilling or production operations in connection with oil or gas exploration or production, including any accommodation ship moored or positioned on site as an integral part of any such operations, to the extent that such liabilities arise out of or during drilling or production operations.

5.12.3 A ship shall be deemed to be carrying out production operations if, inter alia, it is a storage tanker or other ship engaged in the storage of oil, and either the oil is transferred directly from a producing well to the storage ship; or the storage ship has oil and gas separation equipment on board and gas is being separated from oil while on board the storage ship other than by natural venting.

Charles Taylor

Drilling & Production exclusion continued…

5.12.4 If the ship is carrying out production operations, rule 5.12.2 shall apply:

(1) from the time that a connection, whether directly or indirectly, has been established between the ship and the well until such time that the ship has been disconnected from the well as part of a planned procedure to leave the site for the purpose of navigation to shore or to another production site; or

(2) where the ship is unintentionally, as well as intentionally as an emergency response, disconnected from the well; or

(3) where the ship remains connected to the well, but production is shut down, whether or not as an emergency response.

Drilling and production exclusion

What does this mean?

- Navigation (e.g. yard to field / redeployment) = potentially **Mutual/poolable**

Drilling and production exclusion

What does this mean?

- **Operational** FPSOs excluded from poolable cover

Cover solution?

Club provides non-poolable P&I cover for operating production units under our **STANDARD OFFSHORE RULES (SOR)**

Limits up to $1bn

Standard Offshore Rules

- **Injury/death/illness**
  - Personal injury to crew
  - Third parties on board
  - Crew contracts must be approved my managers (club)
- **Collision**
  - To the extent these are not covered under the H&M policies
  - Includes FFO (damage Fixed and Floating Objects)
- **Pollution**
  - From unit
  - From another covered P&I risk
  - Subject to exclusions (e.g. for sub/sea pollution)

Standard Offshore Rules

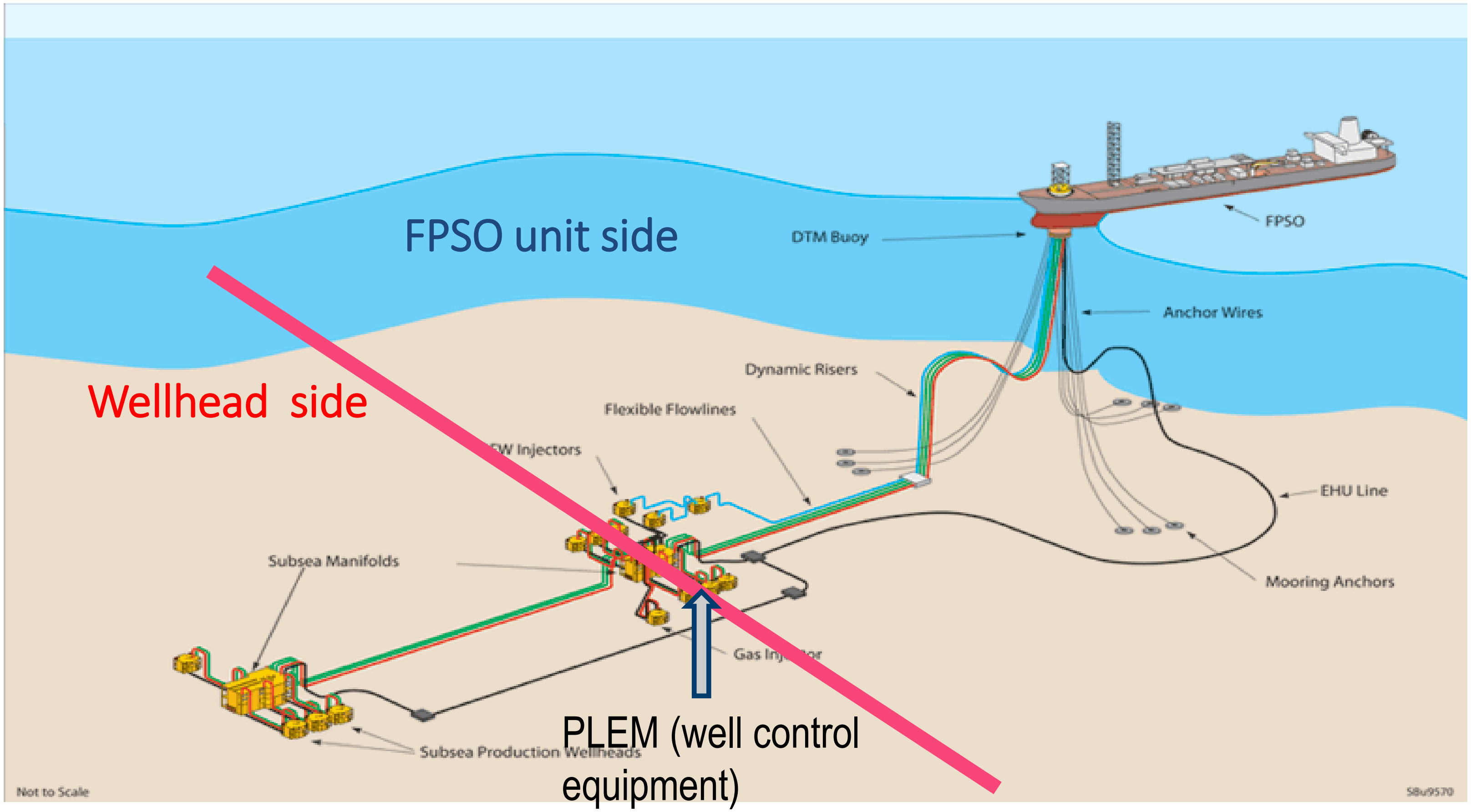
- **Wreck Removal**
  - Order from a competent authority
  - Club and member agree that it constitutes a hazard to navigation and should therefore be removed
  - Order from client under approved contract
- **Damage to third parties (not arising from collision/pollution)**
  - e.g. 3rd party property in area
- **Contractual indemnities for rule 3 risks (approval from managers needed)**
  - P&I liabilities are only the responsibility of the member because the member has assumed the risk under contract

Definition of unit(1)

A mobile offshore production which has been entered in the club for insurance, including the risers, flowlines and umbilicals (**provided such risers, flowlines and umbilicals are not separated from the unit by any wellhead or well control equipment**), floating hoses, buoyancy floats or tanks and mooring systems, or any other description of mobile offshore production unit noted in the certificate of entry, but always excluding any wellhead, well control equipment, downhole equipment, or any part thereof whether or not on board or connected to the mobile offshore production unit**.**

The Standard

Definition of unit - subsea



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Standard Offshore Rules

BUT Excludes 'Field Risks'

- Pollution from hole/subsea (and damage caused by pollution)
- Control of well costs (e.g. blow out)
- Property well side of PLEM
- Wreck removal of down hole property

Offshore Liability Extension

Responds to members liabilities up to $25m

- Personnel off unit
- Charterers cover for supply boats
- Debris removal post casualty
- Contractual subsea pollution (from hole or well) - clean up and damage done by

***NB** pollution elements of cover are sub-limited to $5m*

Contracting Benchmark

Oil Company Member

May not be an operating contract per se. Essentially this may be at law as there will be no allocation between member (FPSO Operator) and the Field operators (who will be our oil company member or consortium under a PSA)

Cover will respond in respect of liabilities arising out of their interest in the unit, NOT their interest in the field.

NO cover for :

- Voluntary wreck removal
- Pollution under OLE

Contracting Benchmark

Production Subcontractor

- Knock for knock people & property
- Oil company group should encompass all participants in field
- Third parties should be at law (i.e. fault based)
- Pollution from unit only (indemnified for well/underground pollution)
- Wreck removal upon oil co’s reasonable orders = acceptable

Priority of access

Can a co-assured or joint entrant exhaust the limit of liability for a particular claim before other losses have crystallised?

- Who has suffered the loss and in what capacity?
- How has that party been named on the certificate of entry?

Priority of access

Priority of access to cover is claim exceeds limit of cover

(rule 6.1.3)

a) Claims of the member takes priority over Joint Entrants and Co-assureds, then;

b) Claims of Joint Entrants take priority over Co-assureds in proportion to remaining part of the limit as their claim bears to total claims of all joint entrants, then;

c) Claims of Co-assureds in respect of any limit remaining are paid in proportion to remaining total claims of all co-assureds

The Standard

The benefits of insuring with the club

- A rated security by Standard & Poor
- Dedicated offshore division
- Contract review – identifies member's liabilities – gives certainty to members regarding cover
- Safety and loss - member risk reviews, surveys, safety feedback
- Bunker Blue Cards for offshore units provided at no additional charge
- Experience in dealing with complicated claims
- Ability to provide security
- 24 hour emergency phone number

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Coverage Matrix – Market/P&I

Exposure	Field operator owned FPSO		Contractor owned FPSO	
	Market	**P&I**	**Market**	**P&I**
Employees (own)	Yes – under Liability policy	Yes	Yes – under Liability policy	Yes
Owned Property (apart from FPSO)	Yes – including subsea infrastructure	No	Yes – usually equipment and spares	No
FPSO Property	Yes – Hull, IV/Hull Interest, Cargo	No	Yes – Hull, IV/Hull Interest	No
Removal of Wreck / Debris	Yes – excess of P&I unless specified	Yes - where ordered by law / hazard to navigation (voluntary wreck removal not covered)	Yes – excess of P&I unless specified	Yes - Where ordered by law or club and member deem wreck to be hazard to navigation. When ordered by Client. Wreck vs Debris
Pollution	Yes – arising from the FPSO, subsea infrastructure and reservoir. Excess of P&I and/or OEE.	Yes – arising from the unit as defined under SOR (pollution elements of OLE not available)	Yes – from the FPSO plus risers/umbilicals if applicable. Excess of P&I.	Yes – arising from the unit as defined under SOR. Damage caused by pollution from well under OLE up to max $10m
Loss of Income	Yes – Loss of Production Income	No	Yes – Loss of Hire, Freight Interest	No
Third Party Liabilities	Yes – excess of P&I and other underlying policies	Yes – P&I risks only	Yes – excess of P&I and other underlying policies	Yes – P&I risks only

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Break

The Standard

Club FPSO P&I claims

Sharmini Murugason, Regional Offshore Claims Director

21 June 2016

Accidents happen

1980

Alexander Kielland

1988

Piper Alpha

2009

West Atlas

2010

Deepwater Horizon

Contents

Cover responds to P&I risks

- People
- **Cargo**
- Property
- Pollution
- Towage
- Wreck removal
- Fines

Offshore ship types





Offshore ship types by tonnage

PY 2016 as at 20 February 2016 – 17.3 million GT

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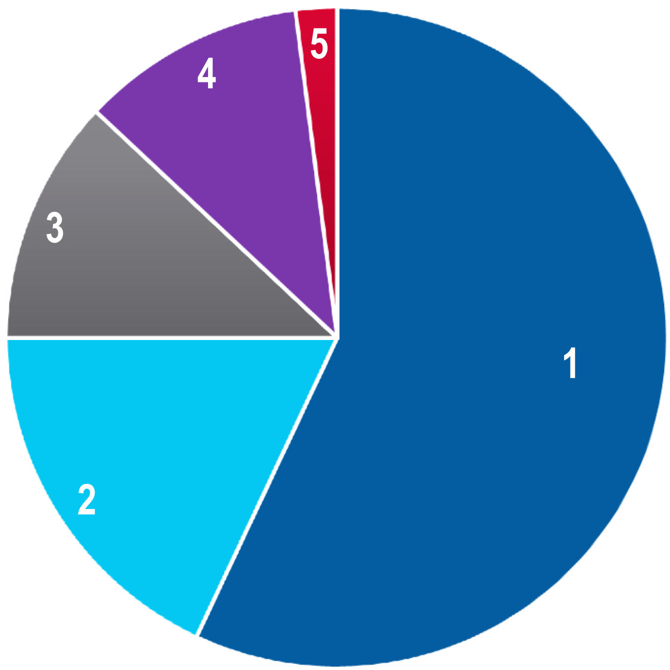

1	Production	**57%**	(96)
2	Installation/construction	**18%**	(101)
3	Drilling	**12%**	(75)
4	Supply support	**11%**	(551)
5	Accommodation	**2%**	(26)

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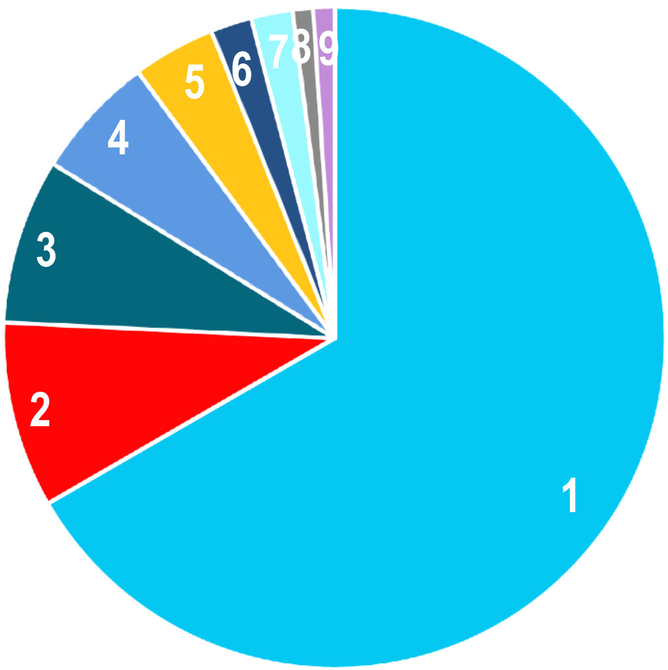
Offshore Claims by Number

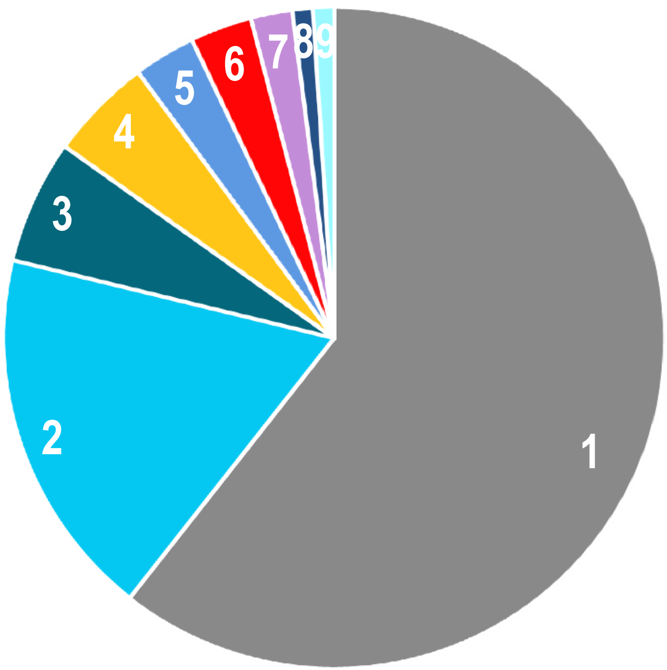
PY 2010 to 2016



1	Personal Injury	66%
2	Collision	9%
3	Fixed and floating objects	8%
4	Fines	6%
5	Pollution	4%
6	Cargo	2%
7	Other	2%
8	Wreck	1%
9	Towage	1%
10	DTH	<1%

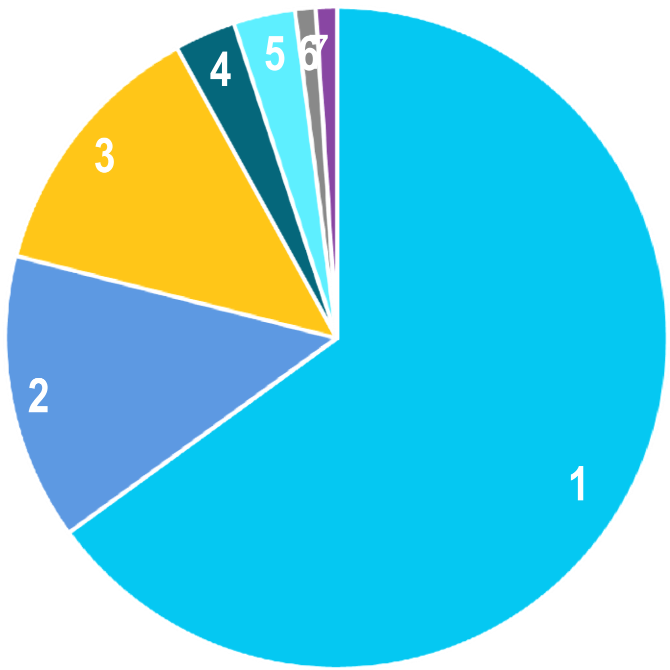
Offshore Claims by Value (uncapped)

PY 2010 to 2016



1	Wreck	**60%**
2	Personal Injury	**18%**
3	Fixed and Floating objects	**6%**
4	Pollution	**5%**
5	Fines	**3%**
6	Collision	**3%**
7	Towage	**2%**
8	Cargo	**1%**
9	Other	**1%**
10	DTH	**<1%**

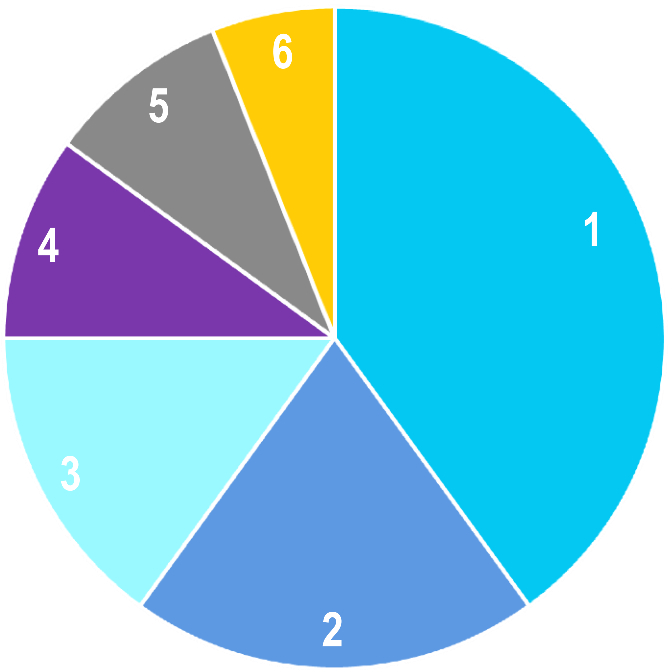
Production Claims by Number
PY 2010 to 2016



1	Personal Injury	**65%**
2	Fines	**14%**
3	Pollution	**13%**
4	Fixed and floating objects	**3%**
5	Other	**3%**
6	Wreck	**1%**
7	DTH	**1%**

Production Claims by Value (uncapped)

PY 2010 to 2016



1	Personal Injury	**40%**
2	Fines	**20%**
3	Other	**15%**
4	DTH	**10%**
5	Wreck	**9%**
6	Pollution	**6%**
7	Fixed and Floating Objects	**<1%**

FPSO Cidade de Sao Mateus (BW Offshore)

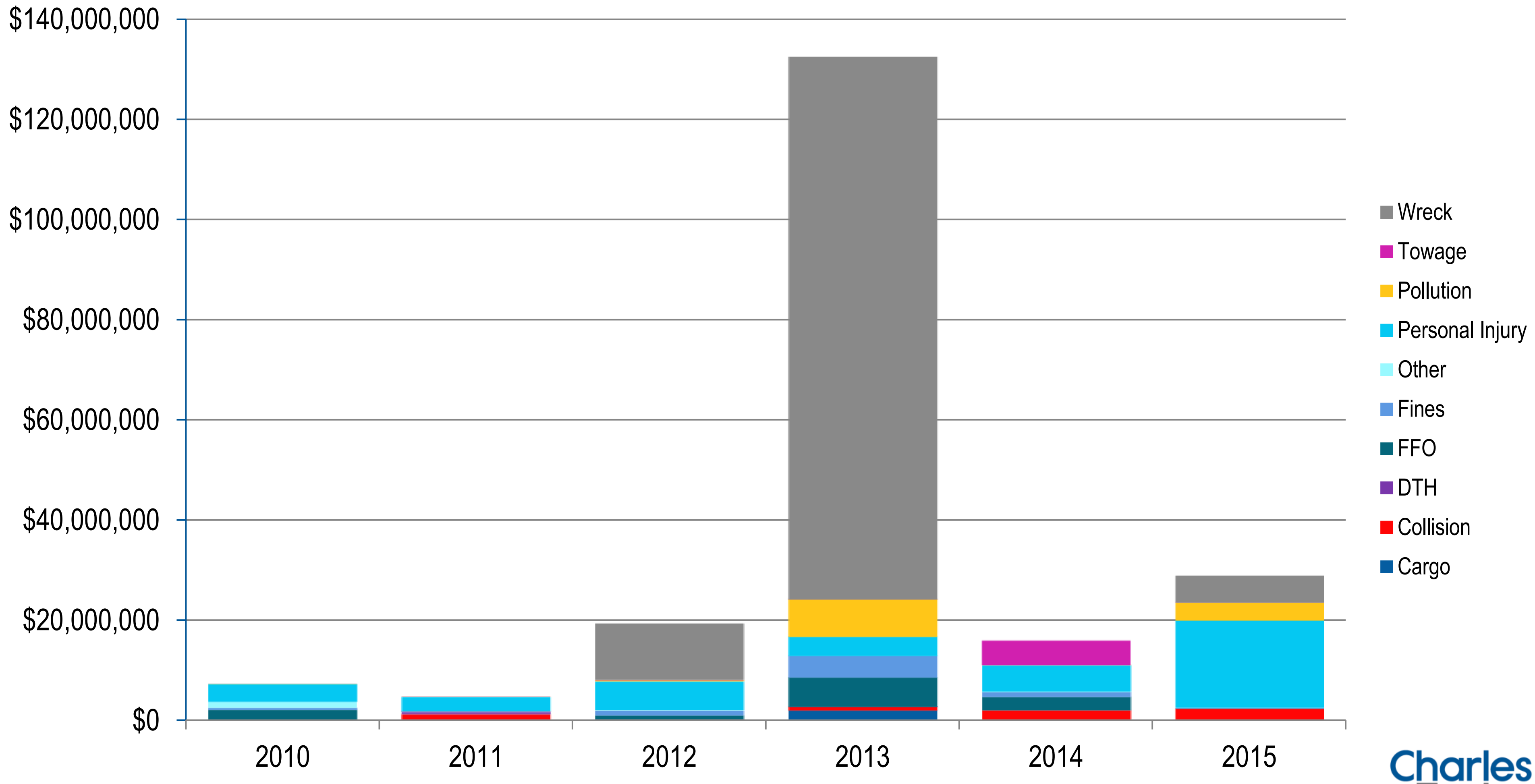
Explosion 11 February 2015

- 9 Killed
- 26 Injured
- Business Interruption
- Hull & Topside damage

Reported causes

- Failure to follow proper fluid pumping procedures
- Installation of incompatible piece of equipment in pipe
- Failure of safety procedures (responding workers sent into pump house after alarm triggered)

Offshore claims trend
By value (uncapped)



In conclusion

- High value claims but low frequency
- Personal Injury
- Aggregation of attritional claims
- Management of claims

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The Standard Syndicate

Industry and Commercial Insurance Market Losses

Oliver Paine, Energy Class Underwriter

The Standard Syndicate 1884

21 June 16

Introduction

- Guide to the Charts
- FPSO Incidents per Year
- Operating FPSO Incidents per Year
- Rate of FPSO Incidents since 2005
- Value of FPSO Incidents
- Type of Loss by Value
- Cause of Loss by Value
- Potential Market Exposure
- Top 5 FPSO Incidents

FPSO Incidents

Guide to the Charts

- Incidents > USD 1mm at date of loss
- Indexation used for years prior to 2016
- FPSO's only
- Industry losses, not necessarily insured
- Property, Business Interruption and OEE only

Number of FPSO Incidents per Year

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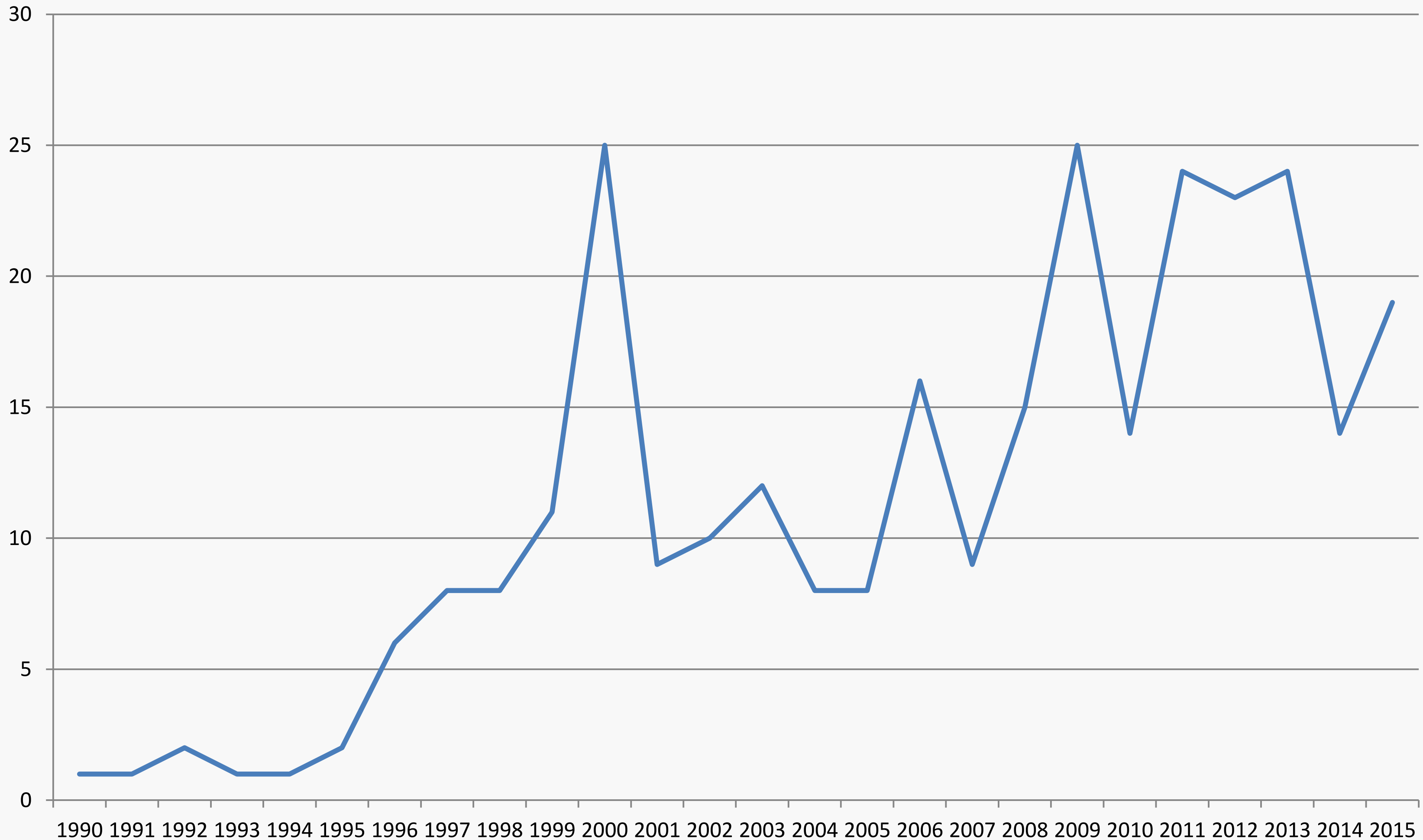
Construction and operating losses



Number of Incidents per Year - Operating

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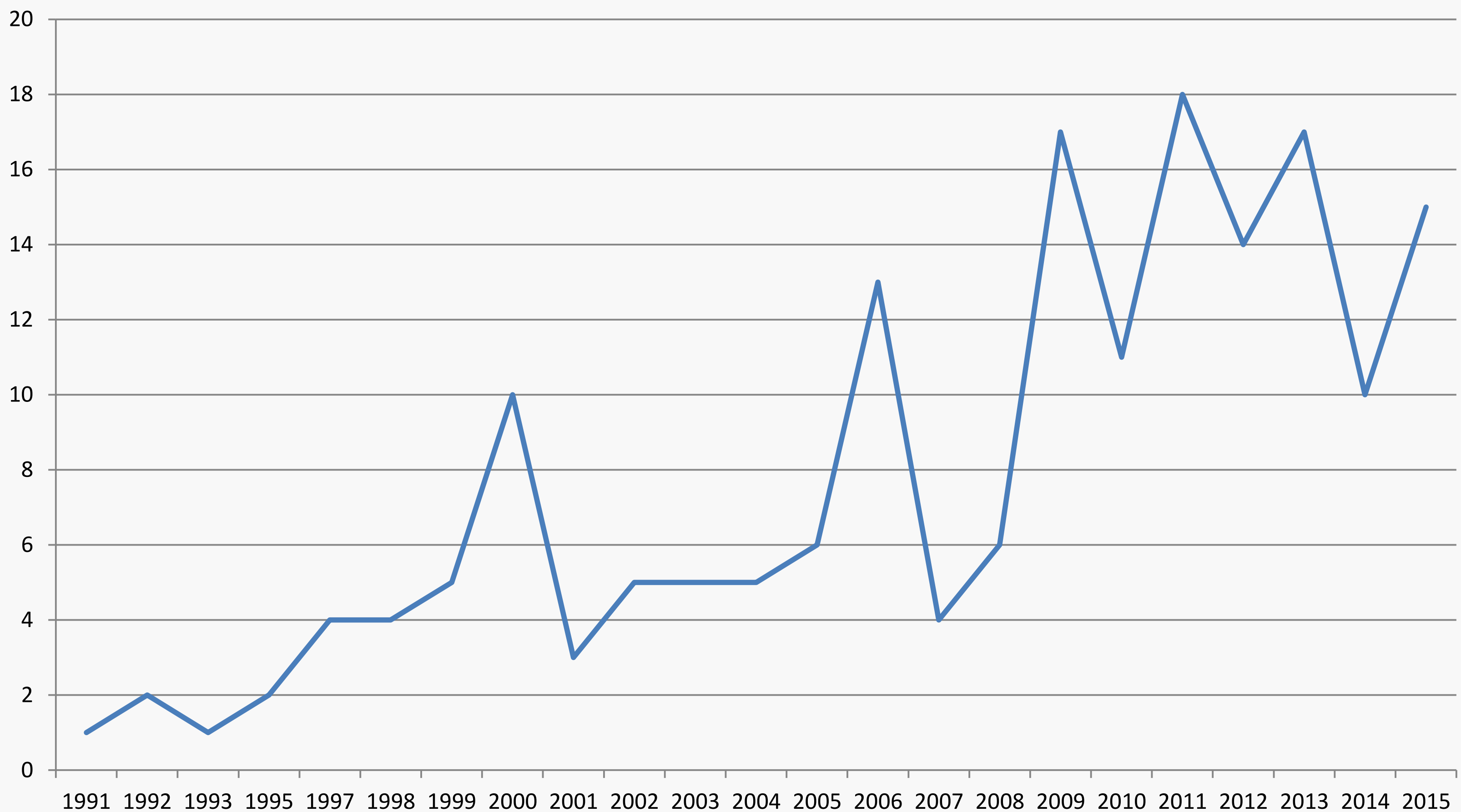
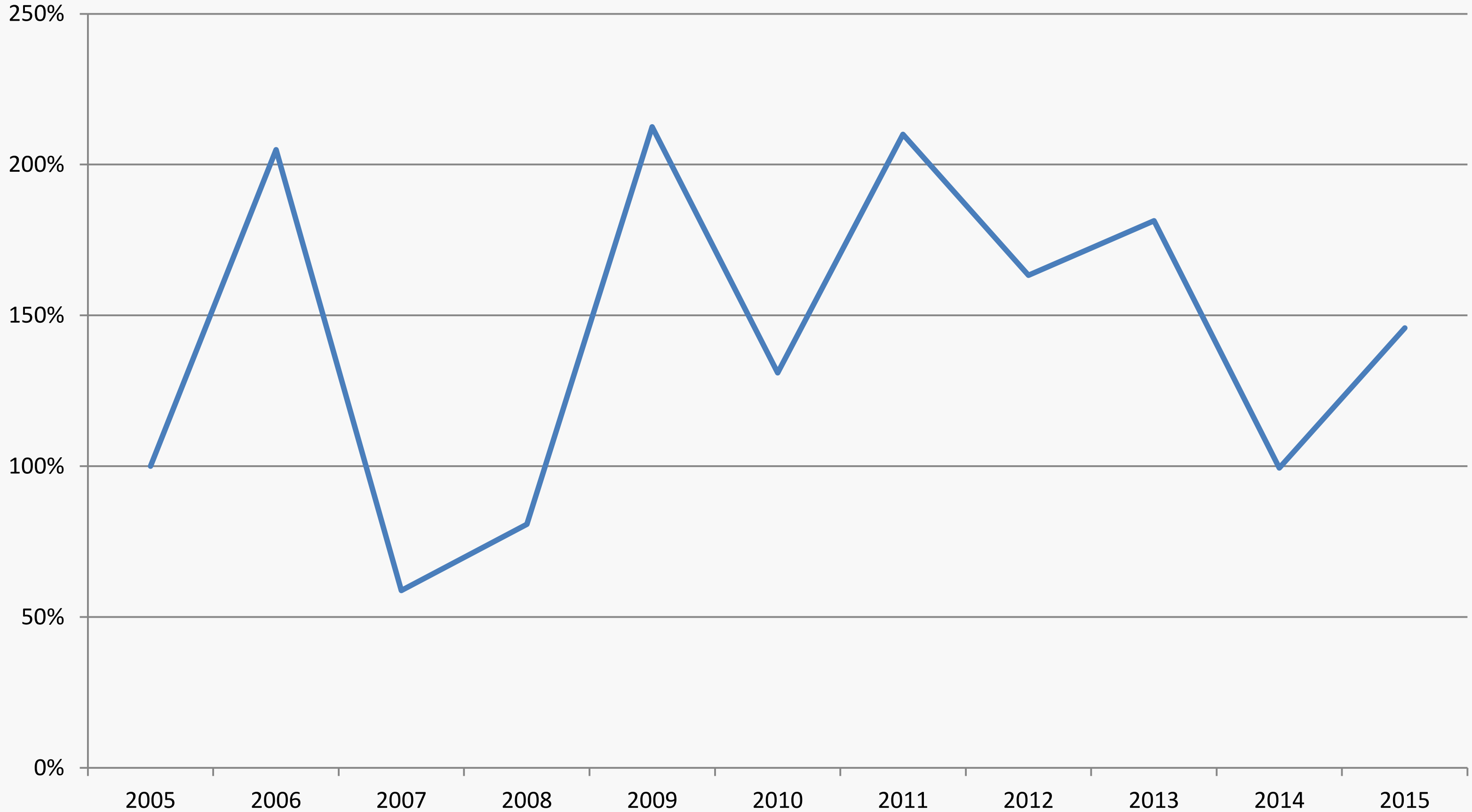
A general trend of increased number of losses per year



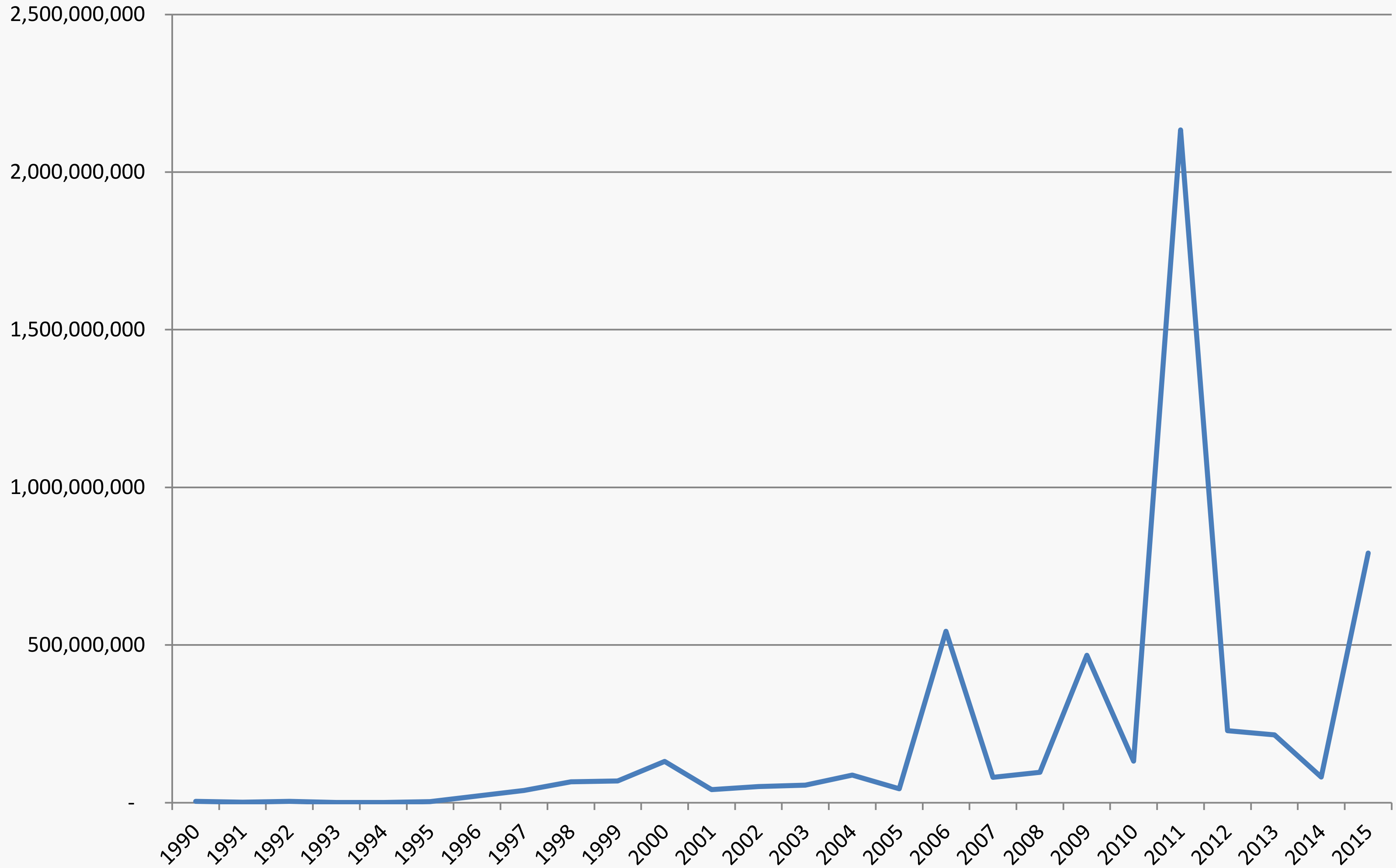
Rate of Loss per Year

Number of losses normalised against the number of operating FPSO's per year – good and bad years

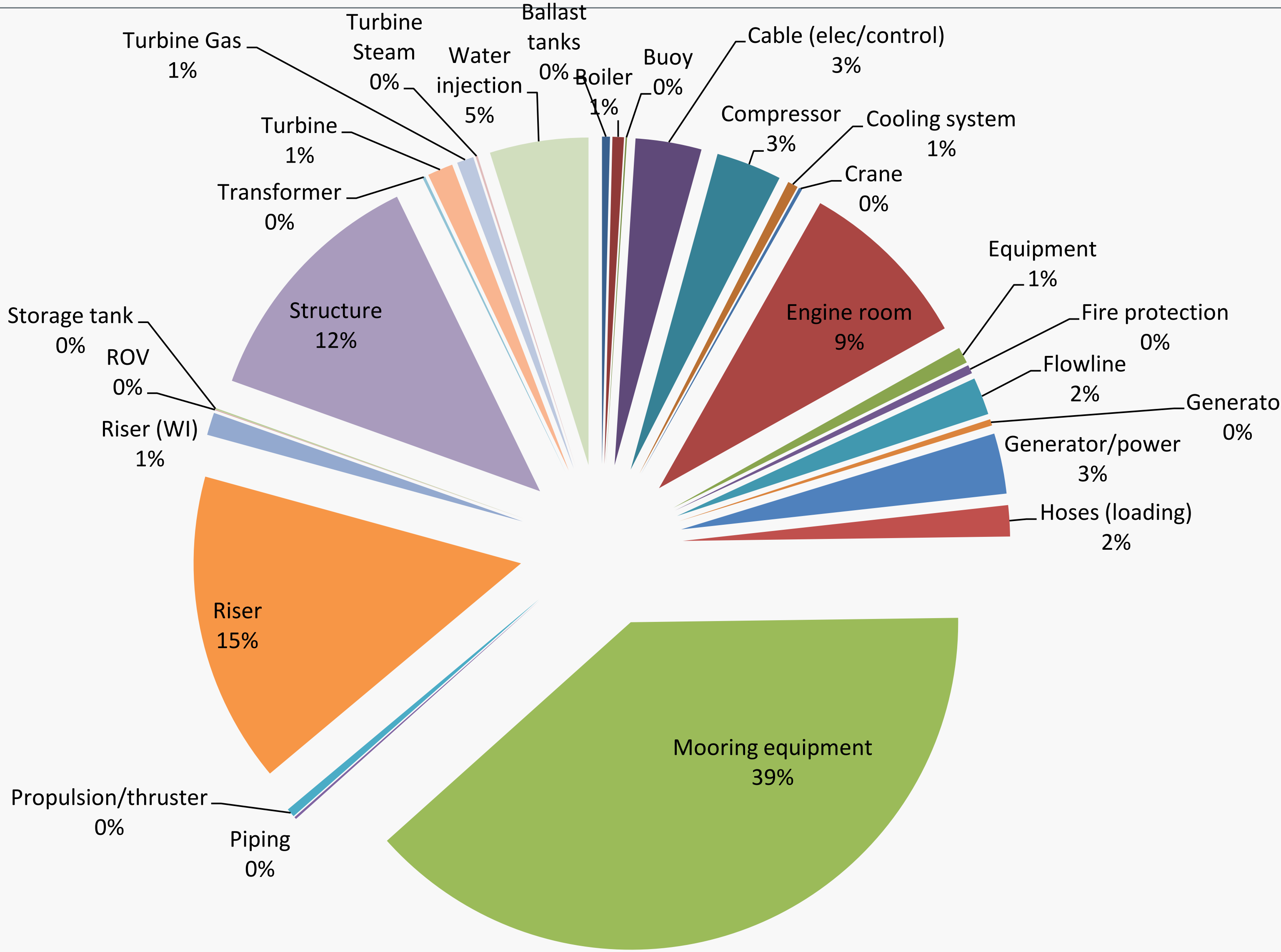


Total Value of FPSO Incidents (USD)

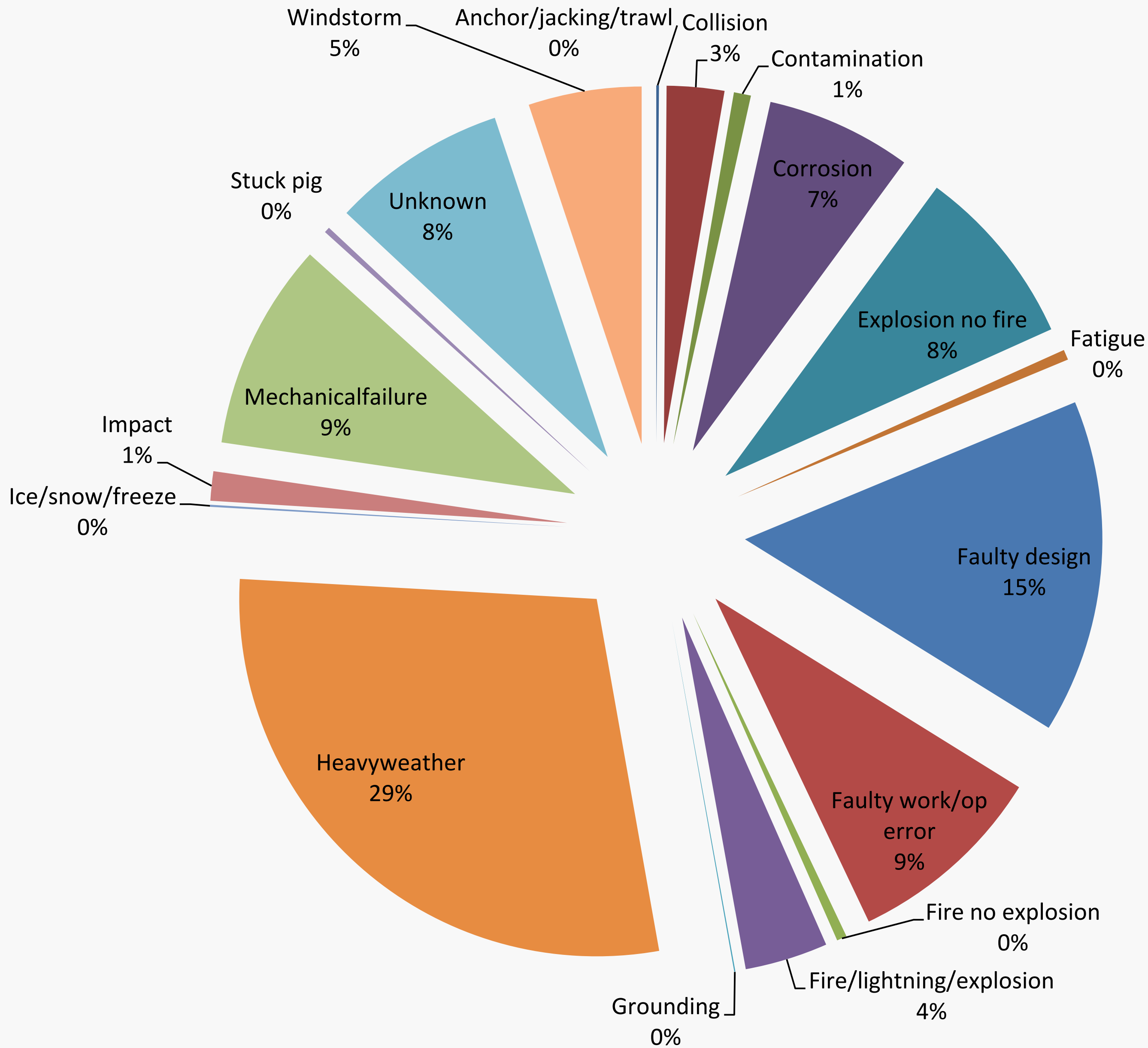
A volatile market experience



Type of Loss by Value

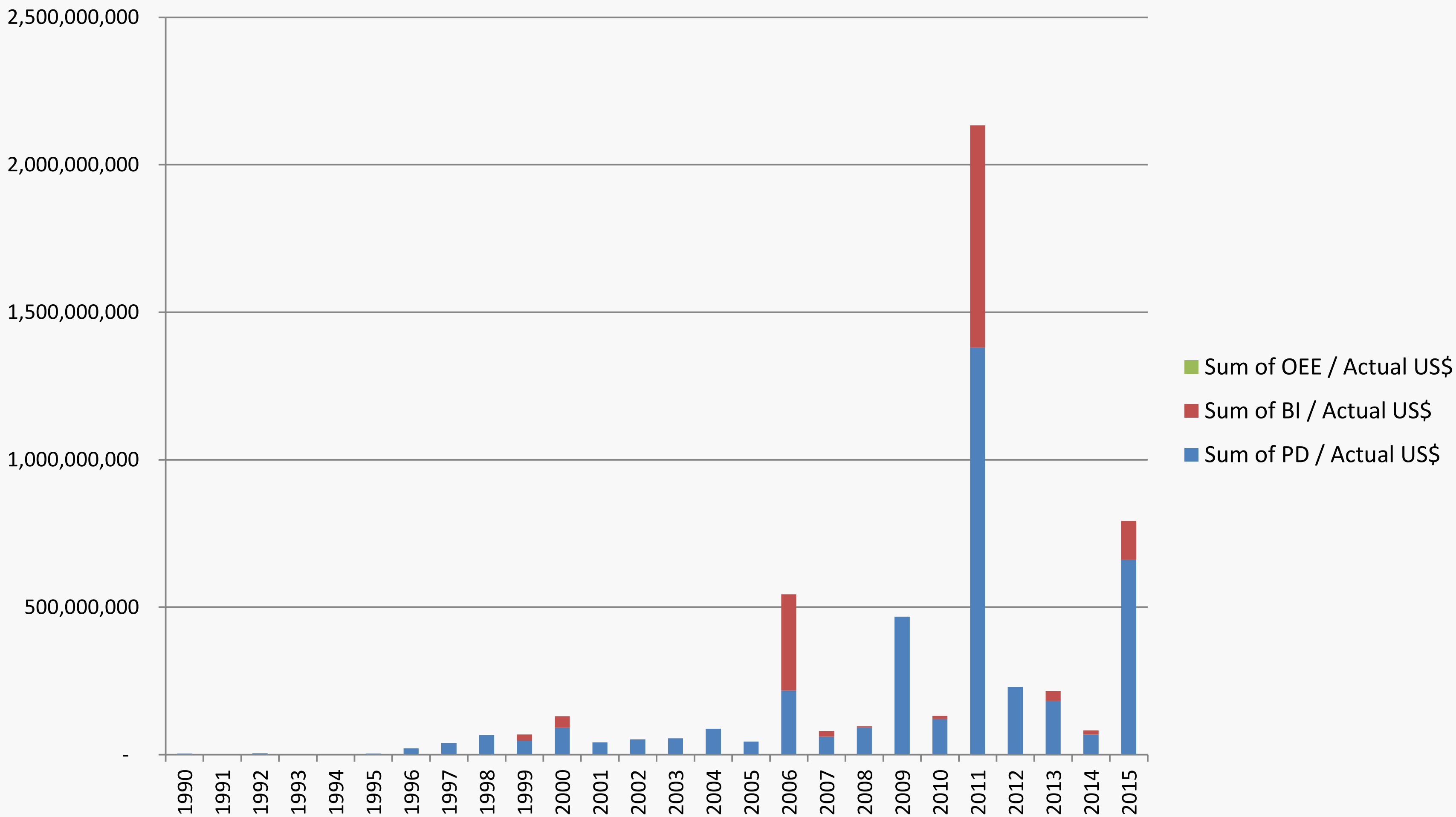


Cause of Loss by Value



Potential Market Exposure (USD)

How the recorded incidents are categorised amongst Property Damage, Business Interruption and Operators Extra Expense



Top 5 FPSO Incidents

Year of Loss	Loss Type	PD / Actual US$	BI / Actual US$	Total	Location	Country	Cause	OP / CAR	Category	Subcategory		FPSO (Operator/Contractor)
2011	PD,BI	534,000,000	500,000,000	1,034,000,000	North Sea	UK	Heavyweather	OP	MOPU	Mooring equipment		Gryphon (Maersk)
2015	PD,BI	330,000,000	112,500,000	442,500,000	Espirito Santo Basin	Brazil	Explosion no fire	OP	MOPU	Engine room		Cidade de Sao Mateus (BW Offshore/Petrobras)
2011	PD,BI, CBI	213,500,000	227,000,000	440,500,000	North Sea	UK	Heavyweather	OP	MOPU	Mooring equipment		Petrojarl Banff (Teekay/Canadian Natural Resources)
2006	PD,BI	44,634,627	197,584,000	242,218,627	Newfoundland	Canada	Faulty work/op error	OP	MOPU	Water injection		Terra Nova (Suncor)
2011	PD	221,000,000	-	221,000,000	Campos Basin	Brazil	Faulty design	OP	MOPU	Structure		Frade FPSO (Chevron)

Regulatory status

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FPSO ROUNDTABLE SEMINAR

THE STANDARD CLUB & HOLMAN FENWICK WILLAN

CHANGE – BE CAREFUL WHAT YOU CONTRACT FOR

21 JUNE 2016

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CONTRACTUAL TRIGGERS OF CHANGE

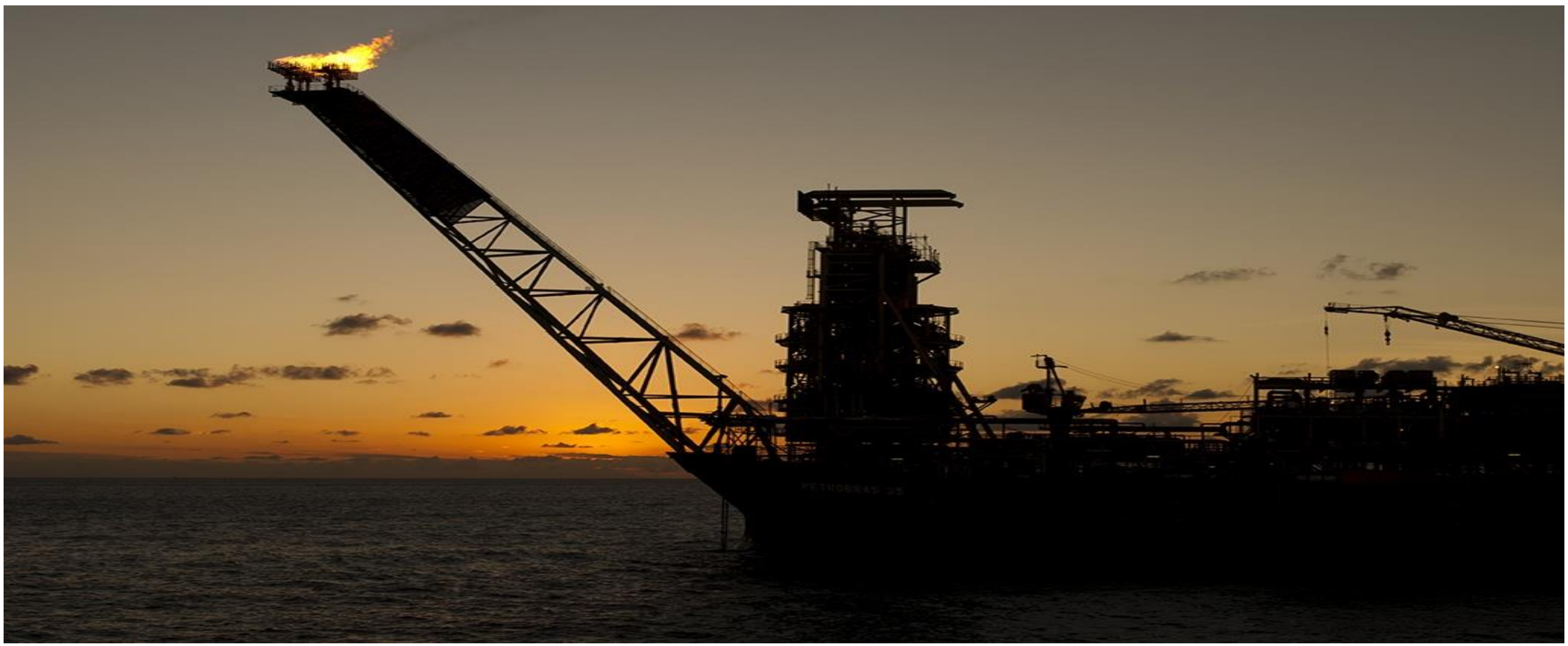
- Unknown unknowns
  - Frustration
  - Risk allocations

- Known unknowns
  - Force majeure/ termination for extended force majeure
  - Risk allocations

- Built in flexibilities for anticipated needs
  - Variations and change orders
  - Assignment and novation
  - Termination without cause/ for convenience
  - Termination for cause

CHANGE IN LAW: AUSTRALIAN V ENGLISH

- Potentially significant differences in approach to routine clauses:
  - Liquidated damages and penalties
  - Consequential loss and other exclusion clauses



CHANGE OF OPERATING CONDITIONS

- Termination for convenience

  - *“The Company shall have the right without cause to terminate this Contract at any time by giving written notice to the Contractor specifying the date ….and shall pay the Contractor the Termination Payment..”*

  - *“Company may terminate this Contract at any time by giving Contractor not less than xx days notice of termination (but not for reasons of commercial optimisation).”*

AUSTRALIA: CHANGE IN LOCATION

- Moves on and off the field in the Australian jurisdiction
  - AMSA/NOPSEMA
  - Unwanted attention

CHANGE IN CONTRACTING TERMS

- Change from a FPSO Agreement to a BBC arrangement

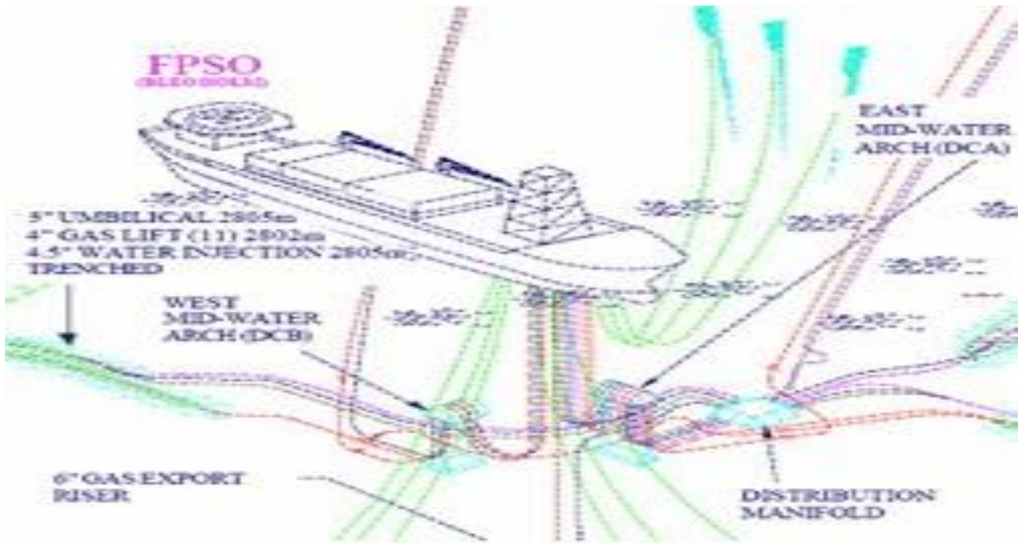
- Basic differences for the operator as demise charterer are:

  - BBC operates as lease of FPSO under which charterer has possession of vessel
  - Charterer liable to Owner for damage to vessel
  - Statutory duties imposed on Owner become liability of charterer
  - Charter is subject to implied duties under supply of Goods and Services Act 1982 (if subject to English law)
  - Law Reform (Frustrated Contracts) Act applies to BBC

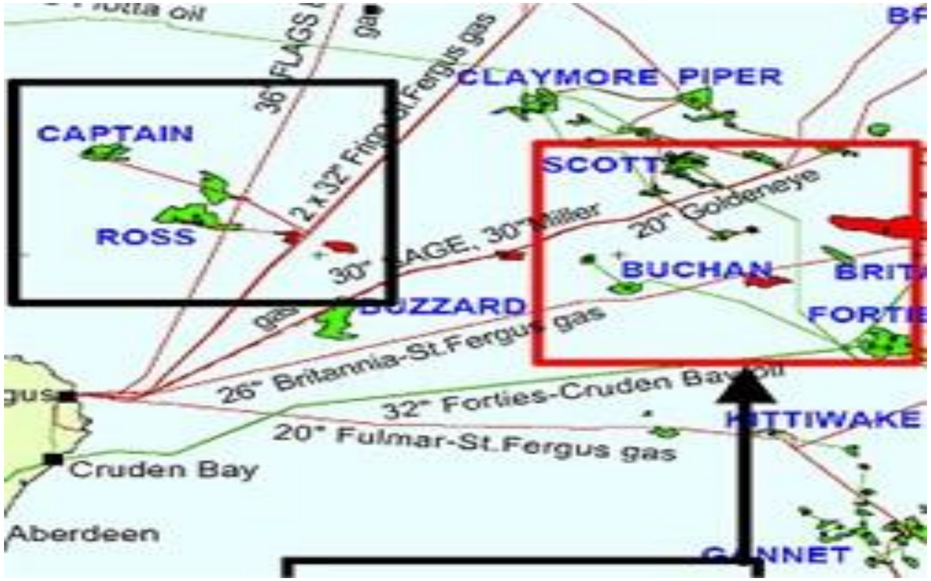
CHANGE IN CONTRACTING TERMS

- Recent decision in BG Global Energy Ltd v Talisman Sinopec (2015) EWHC 110

CHANGE IN CONTRACTING TERMS



CHANGE IN CONTRACTING TERMS



CHANGE IN CONTRACTING TERMS

- Ross Field is 100km NE of Aberdeen
- Oil discovered in 1982
- TLM operates Ross and entered into FPSO agreement for Bleo Holm in 1997
- First oil in 1999
- Blake Field is 10km north of Ross and discovered in 1997
- Blake is tied back to Ross and FPSO services fluids from both fields
- FPSO Agreement amended in 2001 to extend to Blake production with first oil in 2002

CHANGE IN CONTRACTING TERMS

- Issues in Bleo Holm:
  - TLM wanted more control over the operation of the FPSO
  - TLM had equity interests in both Ross and Blake
  - TLM decided to replace the FPSO agreement with a BBC but employing experienced crew
  - The Blake owners had a TPOSA with the Ross owners for the processing and delivery of their production
  - However arguably the Blake owners' consent was required to change the contractor arrangements for the FPSO

CHANGE IN CONTRACTING TERMS

- In the Commercial Court case
  - BG contended its consent was required
  - BG claimed that the charges for the TPOSA including use of FPSO could only be made by reference to FPSO agreement
  - On consent, cl 6.4 of TPOSA provided:

    [TLM]… shall not agree to any changes

    (i) to the contractual payment obligations in the FPSO Agreement which will result in increases to the Operating Expenditure; nor

    (ii) in the terms of the FPSO Agreement which would have an adverse material impact on the services or any other obligation of [TLM] under this Agreement without obtaining the prior written approval of [BG] such approval not to be unreasonably delayed and/or withheld

CHANGE IN CONTRACTING TERMS

- “Operating Expenditure” was deferred by reference to costs of maintenance and operation of the FPSO in Schedule D of the FPSO Agreement

- For commercial reasons, TLM preferred not to seek BG’s consent to replacing the FPSO agreement with a BBC but wanted to be able to charge for the services provided under TPOSA

- The Court held as follows:

1. TLM is entitled to charge BG on the basis of the types of charge set out in Schedule D (which in any event appears as a schedule to the TPOSA)

2. It is the TPOSA services for which payment is made and those services may be performed by TLM or subcontracted since how TLM chose to perform the TPOSA services is a matter of its own choice

CHANGE IN CONTRACTING TERMS

3. Nothing in the definition of Operating Expenditure required the FPSO to be maintained or operated by a third party provider

4. Though specifically costs relating to the FPSO would be a major element of the costs of TPOSA services, if no payments made because FPSO agreement ceased to exist, other direct and indirect costs of FPSO would still form part of the Operating Expenditure definition.

- BG also argued that the FPSO agreement (as amended, supplemented, substituted or novated) could not be constituted by the BBC because it was not sufficiently similar

- The Court held that whilst the TPOSA required a FPSO, a BBC could be entered into in substitution for a FPSO agreement

CHANGE IN CONTRACTING TERMS

- Requirement for consent of BG:
- The Court held that the purpose of consent was to enforce TLM's obligation not to agree changes which increased costs or materially affected services. If TLM did not seek approval then it did so at its peril
- If it did not seek consent, TLM was in breach of the TPOSA
- BG argued that any such breach did not simply sound in damages but operated as a failure to comply with CP to BG's liability to pay any increases in Opex. The Court disagreed and held that failure to obtain consent only sounds in damages
- However if TLM was in breach in not seeking consent but BG would have been unreasonable to refuse consent then any claim under cl 6.4 for breach would only entitle BG to nominal damages

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Casualty workshops

The Standard

Lay up issues for FPSOs

Rahul Sapra, Senior Surveyor

21 June 2016

Contents

Increase in the number of FPSOs laid up

Falling oil prices

- Decommissioned units
- Conversion of new units on hold

Lay up issues

- Overcrowded lay up locations

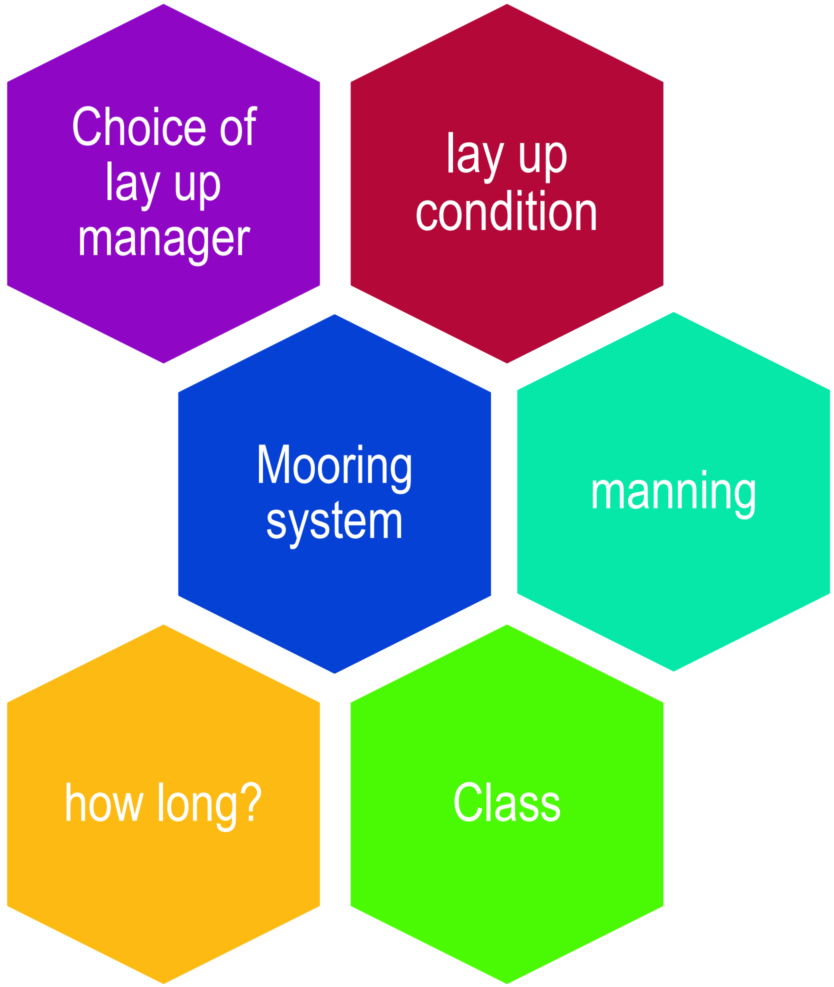
- Slump in the dry market and the offshore industry

- Relatively less first-hand experience

  - Offshore industry

  - Lay up managers

Key decisions – what can go wrong?



Process and planning

Determine the period → Preservation philosophy → Management and location → supervision → reactivation

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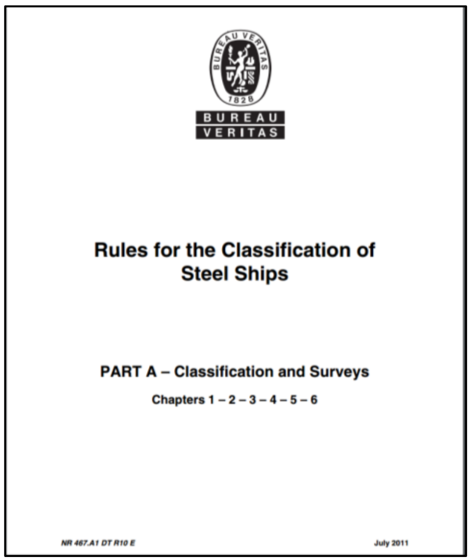
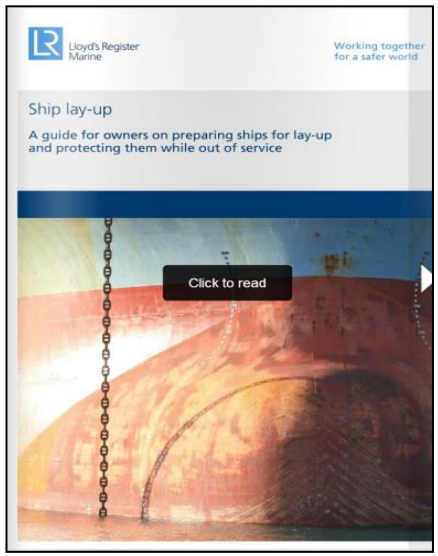
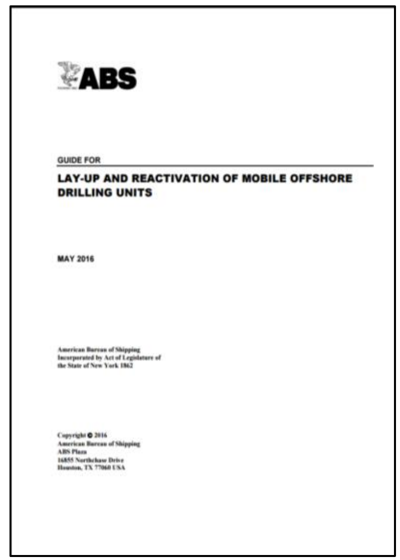
Classification

- Hot or cold lay up
- Classification status ‘enhanced’
- Inspection and survey







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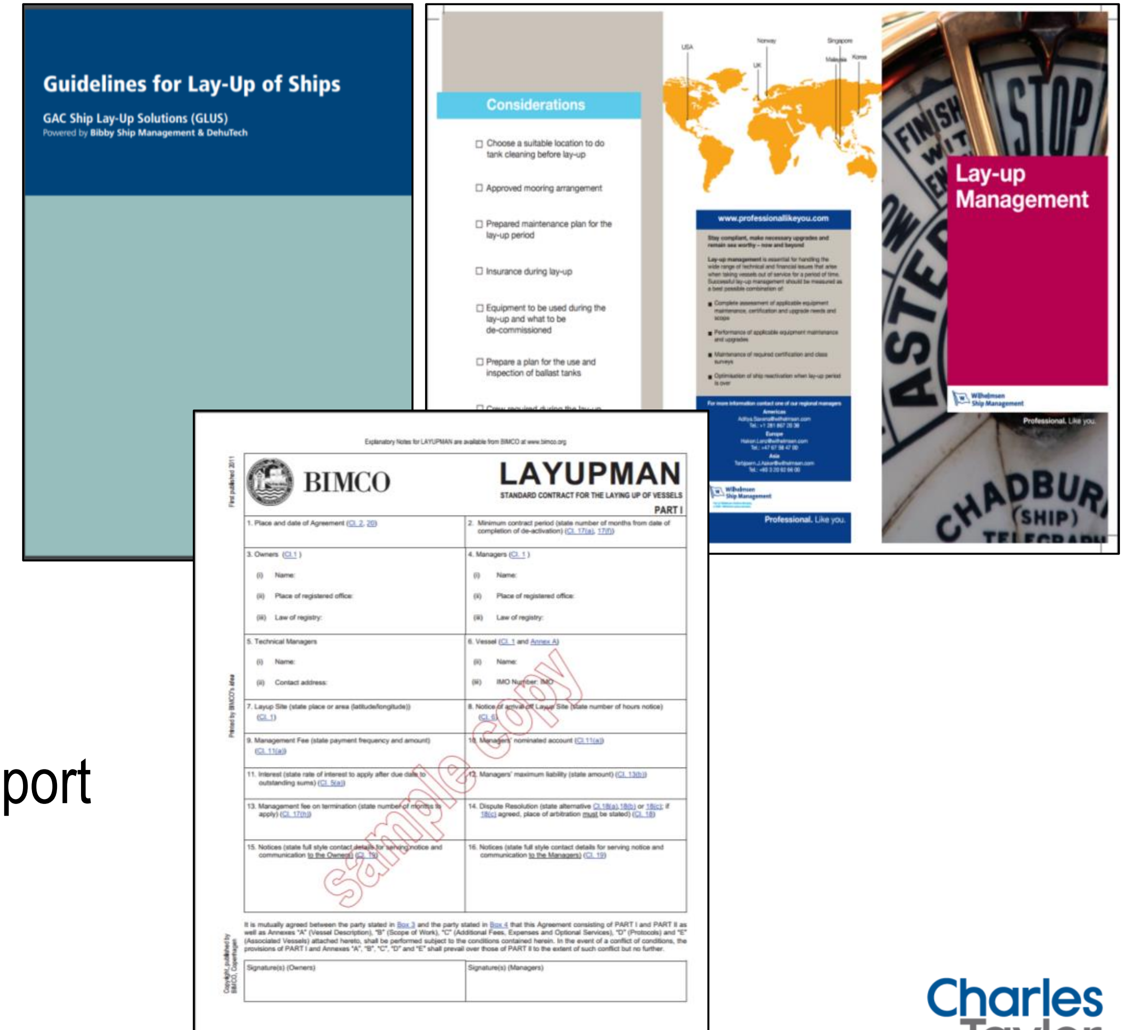
Lay up manager

- LAYUPMAN BIMCO contract
- Past experience
- Support and manning
- Resources
- Maintenance regime
- Location and clearance from the port
- Response to an emergency



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Mooring

- Mooring system
  - Own anchoring equipment
  - Stern anchoring arrangement
  - Permanent buoying facilities
  - Fenders? if moored in a group
- Assessment
  - Risk based prediction and analysis
  - Windage forces
  - Waves and tides

Manning

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Location infrastructure

- Approval from port authority
- Local salvage and emergency response
- Security
- Re-activation

P&I perspective

classification society guidelines to be followed	Suitable lay up location and manager
Proper station keeping and emergency response	Preservation planning

Lay up issues

Regulatory status

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